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TECHNOLOGY FOR BUSINESS

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ON THE COVER

Security, Simplified

The digital threat landscape has become increasingly complex and shows no sign of becoming less so. Network Box USA is dedicated to combating those complexities with effective and affordable security systems for companies of all sizes. The company's new NBR5 Ver5.0 is a next-generation UTM (Unified Threat Management) platform designed to bring clarity to companies trying to get a handle on multifaceted security issues. NBR5 Ver5.0 offers a holistic approach, enabling companies to view firewall blocks, Web access, network usage, and more, all in one view. Turn to the Essential Business Tech department to learn more.



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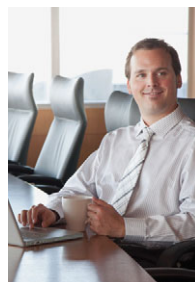
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Fast tech support especially for traveling professionals



DELL BUYS THIN CLIENT LEADER WYSE

► Thin clients reigned along with mainframes but faded in popularity when compact PCs began to dominate in the 1990s. Wyse Technology, founded in 1981 and headquartered in San Jose, Calif., has remained a major force in thin client computing despite market shifts, and in recent years has experienced resurgence thanks to increased use of thin client-like technologies such as cloud computing and desktop virtualization. Now the Round Rock, Texas,-based Dell has agreed to acquire Wyse and hopes to subsequently enhance its own desktop virtualization portfolio. Wyse stands to benefit from Dell's hardware business and large scale of operations. Financial terms of the deal were not disclosed, which should close sometime in Q2 of this year.

ERICSSON ACQUIRES BELAIR NETWORKS

► BelAir Networks, the Ontario-based company that made the carrier-grade Wi-Fi networking solutions used by the likes of AT&T and Comcast, is now part of Ericsson. Based in Stockholm, Sweden, Ericsson will acquire 100% of BelAir's assets and will continue to employ BelAir's 120 employees. "Together we can deliver the industry's first integrated Wi-Fi cellular offering to Ericsson's global customer base in 180 countries, to enhance consumers' mobile broadband experience," said Johan Wibergh, an executive VP with Ericsson, in a statement. Detailed terms of the agreement have not been released.

MICROSOFT & MOVIEO FORM VIDEO ALLIANCE

► Digital video is a rapidly growing business, and in Beijing-based Moviemo the Redmond, Wash.,-based Microsoft has found a partner to further its Windows Azure cloud computing platform on a large scale. With additional offices in Singapore, Melbourne, and Sydney, Moviemo serves the Asia Pacific region with video delivery,

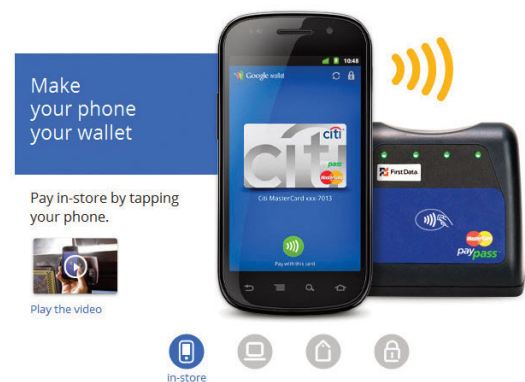
streaming, transcoding, and related services for content distributors and other businesses. Moviemo offers a cloud-based video platform to help companies deliver video to a range of devices, and it stands apart from its competitors by also offering business intelligence services based on user interaction with media and other factors.

ISYS JOINS LEXMARK'S PERCEPTIVE SOFTWARE

► Lexington, Ky.,-based Lexmark, best-known for its printers, imaging solutions, and document management systems, announced that it would acquire Denver-based ISYS Search Software, a leader in enterprise search. ISYS will become part of Perceptive Software, an ECM (enterprise content management) and BPM (business process management) company headquartered in Shawnee, Kan., that Lexmark purchased in 2010. Details of the transaction weren't disclosed, but ISYS CEO Scott Coles said in a press release, "Joining Lexmark will enable ISYS to further enhance its already strong IP base, and to more quickly achieve the next major stage of its commercial development."

GOOGLE EXPANDS ITS WALLET ASSETS

► Mountain View, Calif.,-based Google has acquired TxVia, a New York company that built a payment platform that supports prepaid and rechargeable money cards. Financial details were not disclosed, but Google's press release indicates that the deal would help scale up its Google Wallet mobile payment service. Google Wallet is thus far tied mainly to NFC (Near Field Communication) technology for such things as smartphone transactions.



Google's acquisition of TxVia will likely bring new capabilities to the Google Wallet mobile payment platform.

PANASONIC AVIONICS BUILDS ON IN-FLIGHT COMMUNICATIONS

► Panasonic Avionics, the in-flight communication and entertainment Panasonic subsidiary headquartered in Lake Forest, Calif., is now the majority shareholder of UK-based AeroMobile Communications. AeroMobile provides in-flight GSM cellular network access for customers wishing to make phone calls, exchange text and MMS messages, use email, and access mobile data via the Internet. Panasonic Avionics and AeroMobile share some history as the two companies collaborated to produce the Panasonic eXPhone service, which is currently in use and provides in-flight voice and data services. AeroMobile will continue operations as an independent company.

MICROSOFT & AOL STRIKE A BILLION-DOLLAR DEAL

In a recent announcement from its New York headquarters, AOL acknowledged that it had sold more than 800 patents (many of them reportedly related to Netscape) to Redmond, Wash.-based Microsoft

for \$1.056 billion in cash. The sale includes most of AOL's patents, leaving the company with 300 others in "advertising, search, content generation/management, social networking, mapping, multimedia/streaming, and security, among others," according to AOL's press release. The transaction should be complete by the end of this year.

FCC TO HELP CRACK DOWN ON STOLEN PHONES

► Mobile phones, whether by themselves or along with other items, are now common targets for thieves. According to the Federal Communications Commission, 40% of New York City robberies involve mobile phones. In order to help protect victims of phone theft, the FCC, with the support of Senator Chuck Schumer and others, will create a database of mobile phones so that when a given phone is reported stolen, wireless carriers can remotely shut down that phone. According to the FCC, this reporting system will initially be available in the U.S. in October through AT&T, Sprint, T-Mobile, and Verizon Wireless.

LENOVO OPENS ITS OWN APP SHOP

► With an eye toward enterprises that use Lenovo or other tablets running Android 3.1 or later, Lenovo announced its new Lenovo Enterprise App Shop. Lenovo, headquartered in Beijing and Morrisville, N.C., intends to provide larger businesses with greater administrative control via the new Web-based store and the associated App Shop Manager software. Combined, these products will help companies control what apps are available to employees. Administrators can also use the management software to purchase and distribute apps, enable and disable apps on mobile devices, enjoy volume pricing discounts, and publish their own companies' apps.

SAMSUNG MAKES NEW MICROSD CARDS FOR LTE DEVICES

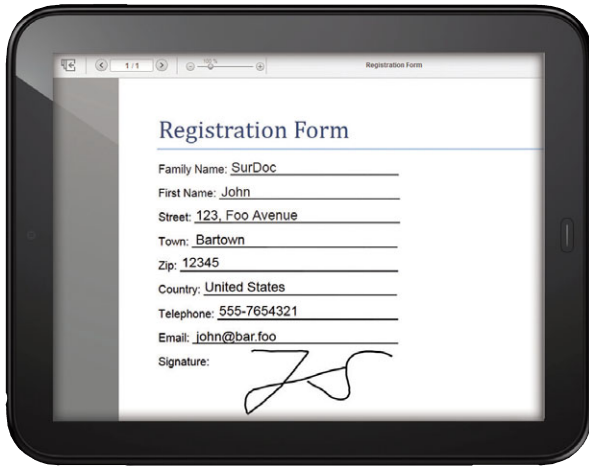
► Samsung is now manufacturing 16GB microSD cards using the UHS-1 (Ultra High Speed-1) interface, which is especially suitable for the demands of new and upcoming 4G LTE (Long Term Evolution) smartphones and tablets. The interface "allows consumers to enjoy high-quality images and video playback directly from the memory cards, which fully supports the advanced performance features of diverse digital gadgets," said Wanhoon Hong, Samsung's executive VP for memory sales and marketing. Samsung indicated that higher-density cards are forthcoming, but did not provide a time-frame for those.



Samsung's new Ultra High Speed-1 microSD cards offer high-capacity storage for LTE (Long Term Evolution) 4G smartphones and tablets.

SURDOC ONLINE DOCUMENT MANAGEMENT NOW AVAILABLE

► SurDoc, a startup that launched in December 2011, has announced general



The new SurDoc online document management solution lets you manage and sign documents via a Web browser on any device.

availability of its new online document management solution. The cloud-based service lets users view, share, edit, and sign documents via a Web browser on any device without the use of an additional app, plug-in, or program. The service is available with a free 10GB storage plan or a premium 100GB storage plan.

BRIGHTEDGE SET TO EXPAND

► BrightEdge, a company focused on providing a platform for site, search, and social management for enterprises, has secured \$12.6 million in series C funding led by Intel Capital. Plans for the funding include enhancing the BrightEdge product suite,

adding to company staff, and expanding offices in New York and London. The BrightEdge S3 platform provides businesses with information about their products and brand, including search engine metrics, social media insights, and comprehensive reporting in a secure environment. The company has grown rapidly in the past 18 months, experiencing 400% year over year growth.

BOOMERANG GMAIL SERVICE EXPERIENCES ONE MILLIONTH DOWNLOAD

► The Boomerang for Gmail service, produced by startup company Baydin, tallied its one millionth download in March. The service, which operates as a plug-in for the

Firefox, Chrome, and Safari Web browsers, launched in November 2011. It provides additional capabilities for Gmail, such as sending email at future dates, archiving messages temporarily, and creating follow-up reminders for specific email messages. Baydin offers a free version in addition to a premium subscription version. The company also makes an email reminder plug-in for Microsoft Outlook.

PAY-PER-CALL BUSINESS FELIX SPINS OFF FROM YEXT

► Yext, a startup company that syncs local business information across a network of websites and mobile apps, has created a new division called Felix. Yext will focus on its PowerListings local information hub, while the new Felix business will handle the company's growing pay-per-call business. Felix works with vertical directories on the Web, such as PhysicalTherapists.com, LocalVets.com, and TV-RepairMan.com to connect consumers with business subscribers over the network. Businesses that use Felix are featured on more than 200 different websites, mobile apps, and emerging media properties such as SuperPages, Local.com, and Dogster.

ENCODING.COM WINS VIDEO INNOVATION AWARD

► Video encoding service provider Encoding.com recently won the innovation Award for Video at the Startup Spotlight competition, which was hosted at the Ad:Tech conference in San Francisco. Blending a SaaS (software as a service) model on cloud-computing platforms with video conversion capabilities,

Encoding.com simplifies provisioning of online video. It also offers Vid.ly, a universal video URL platform that lets businesses host video content. Vid.ly can serve more than 20 different video formats based on the accessing device and other requirements, so that viewers get an optimized video experience. For the award, the company highlighted a number of its efforts including powering user-generated video for the online "Glee Give a Note Campaign" and the "Bud Light High-Five League."



Encoding.com offers video conversion and hosting solutions that make it easier for businesses to present video content online.



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FEWER ORGANIZATIONS TO BLOCK SOCIAL MEDIA IN FUTURE

► About half of all large organizations currently block employee access to social media sites at the workplace, but this figure is expected to drop to 30% by 2014, according to Gartner. With the percentage of businesses blocking such sites decreasing by nearly 10% each year, organizations will give more employees the ability to store, collect, process, and share identity data—which can be a great opportunity but also a threat, according to the research firm. Key factors to keep in mind when allowing or barring employee access to social media sites, according to Gartner, include the trust level an employee will place in a public platform used in the workplace, the efficiencies provided by identity intelligence on a massive scale, and identity verification opportunities.

MORE SMARTPHONE OWNERS ACCESSING MOBILE RETAIL SITES

► According to a Nielsen report, in which 5,000 U.S. smartphone owners volunteered to share how they use their phones, the majority of smartphone users (60%) accessed a mobile retail site or application using their device this past holiday season. Nielsen says users are increasingly using their smartphones to find store locations, redeem coupons, compare prices, and research products and reviews. Although users access retail apps and mobile sites, the majority still prefer to visit a store's website rather than use the store's app.

CONSUMERS NOT TRUSTING OF MOBILE SECURITY

► According to Edelman's 2012 "Privacy & Security" report, the majority (70%) of global consumers are more concerned about the security of their personal information than they were five years ago. The report revealed that only 32% of consumers worldwide say they feel their online privacy is adequately protected and 85% say organizations should take privacy and security

more seriously. Approximately 80% of consumers around the world use online banking services, and 90% of those surveyed report that financial information is the greatest online security concern. Results of the Edelman study also reveals a gap in expectations in terms of the security provided and consumers' expectations—specifically, a 23-point gap in online finance offerings and a 51-point gap in online retail security.

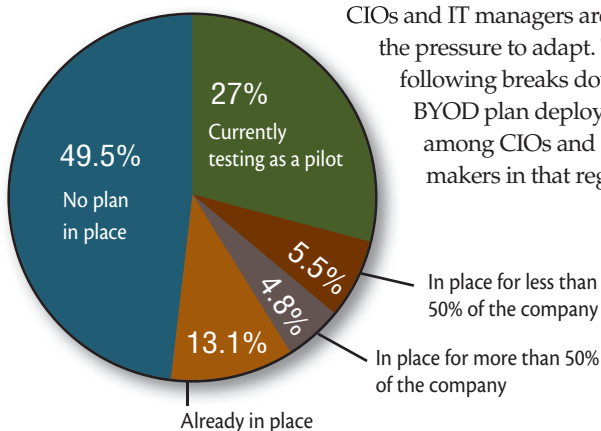
CONSUMERS TO INVEST IN PERSONAL CLOUD

► The majority (90%) of connected consumer devices will be integrated with cloud services by the end of 2013, according to Gartner. And by 2014, the firm says the personal cloud will replace the PC in consumers' lives. Gartner expects the personal cloud to gain significant interest this year, stating that consumers are expected to spend about \$2.2 trillion on digital technologies in 2012 alone. Trends influencing this move to the personal cloud include the consumerization of IT, virtualization, the popularity of apps, the availability of cloud services, and the shift to mobility.

IT FACING BYOD CONCEPT WITH NEW POLICIES

► Many businesses are facing the challenge of the consumerization of IT, especially as more and more workers bring their personal devices into the workplace. A recent IDC report revealed that numerous organizations are planning to construct BYOD (bring your own device) policies within the next 18 months. Specifically in Australia and New Zealand, IDC found that nearly half of all businesses reviewed do not currently have a BYOD plan in place, but

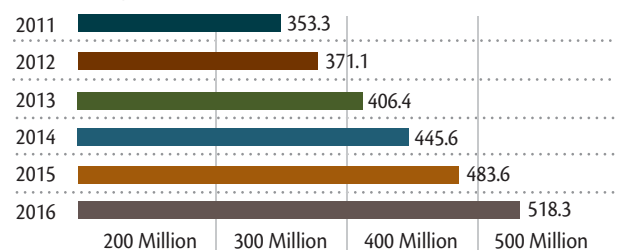
CIOs and IT managers are feeling the pressure to adapt. The following breaks down the BYOD plan deployment among CIOs and decision makers in that region:



PC SHIPMENTS SLOW, GROWTH EXPECTED THIS YEAR

► According to IDC's "Worldwide Quarterly PC Tracker," PC shipments for 2011 increased 1.8% from 2010 and are expected to make a comeback in the latter half of this year. The research firm predicts that the release of Windows 8 and the upcoming availability of ultrabooks and ultra-thin notebooks will boost PC sales by 5% for the year. The popularity of tablet devices may slightly be affecting the PC market, IDC says, but user surveys from the company prove that consumers do not yet consider a tablet a replacement for their PCs. This chart details IDC's predictions on worldwide PC shipments over the next five years:

Total PC Shipments Worldwide:



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AVTECH's Room Alert ZBW & Device Manager Deliver A Complete Solution

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AVTECH

AVTECH's Room Alert ZBW and Device Manager deliver a complete solution for monitoring and managing data center environments. The Room Alert ZBW is a rack-mountable hardware device that monitors and manages data center environments. It is designed to be used in conjunction with the Device Manager software. The Device Manager software is a comprehensive monitoring and management solution that provides a complete view of the data center environment. It includes a web-based interface for monitoring and managing the data center environment. It also includes a mobile app for monitoring and managing the data center environment. The Device Manager software is designed to be used in conjunction with the Room Alert ZBW hardware device. It provides a complete view of the data center environment, including temperature, humidity, and power. It also provides a mobile app for monitoring and managing the data center environment.



Power Tools For IT

How Network Box USA NBRS Ver5.0 Delivers Better Network Security

UTM (Unified Threat Management) devices that combine various security applications into one appliance to protect companies against security threats aren't anything new.

What is new to the UTM landscape is NBRS Ver5.0, a next-generation UTM platform from Network Box USA (www.networkboxusa.com) that promises to alter how UTM devices function and how IT managers interact with them.

A HOLISTIC VIEW

Since 2000, Network Box has offered fully managed UTM security services that combine comprehensive security protection with its patented real-time PUSH update technology and global network of SOC's (Security Operations Centers). The result is award-winning protection used by organizations around the world, including 150-plus U.S. financial institutions. NBRS Ver5.0, however, ups the ante by introducing "Holistic Security Management."

Typical UTM solutions combine spam, firewall, antivirus, and other security applications in one device but present the modules in separate administrative user interfaces. "The industry is long overdue for a change in approaching the topic of unified threat management," says Pierluigi Stella, Network Box USA CTO. "IT managers need a comprehensive, full-serviced, universal view of their network gateways. And not just from a security perspective but also from the viewpoints of compliance, reporting, and business

continuity." NBRS Ver5.0 does this and much more.

Packing hundreds of new features—among them bandwidth control, application identification, SSL (secure website) scanning, and translation for the new IPv6 protocol—NBRS Ver5.0 utilizes "security modules" that work together and extend the platform's usefulness. What's important to note about NBRS Ver5.0 is that its modules not only work together, but can also be viewed simultaneously, providing a holistic rather than a fragmented approach.

As a result, your company's IT personnel can use NBRS Ver5.0 to track and view network resources, entities (network users and machines), and their individual attributes (MAC, IP, and email addresses) all in one pane. Thus, IT can view the firewall blocks, Web access, and network usage tied to, say, John Doe's desktop PC, mo-

bile device, and VPN access all on one screen.

NEXT-GENERATION APPLICATION PROTECTION

The first module released for NBRS Ver5.0 is a state-of-the-art WAF (Web Application Firewall). The holistically managed device sits in front of the Web server to protect it from threats coming in from the browser. It combines routing, protocol translation, encryption and compression offloading, protection from DDoS (distributed denial of service) attacks, IPv4/IPv6 bridging, and a Virtual Patching feature that essentially applies "hot updates" by installing WAF rules.

A typical installation would put the NBRS Ver5.0 WAF between attack sources and the Web servers a company wants to protect. NBRS Ver5.0 WAF then transparently intercepts and proxies requests targeted at these



Web servers, applying protection rules before passing requests to the Web servers. Additionally, replies from the protected Web servers are intercepted and subjected to protection rules before being passed to the requester.

Mark Webb-Johnson, CTO, Network Box Corp., Ltd., says to think of a WAF as a very specific IPS (Intrusion Prevention System) tightly integrated with a firewall “targeted purely at protecting Web servers and the applications running on them accessed through the HTTP protocol.” Whereas IT can instruct a firewall to open or close port TCP/80 for Web access, and an IPS can inspect traffic on port TCP/80 and check for common vulnerabilities and exploits, the Network Box WAF “goes beyond both by completely decoding the HTTP protocol and applying rules to requests and responses using that protocol,” Webb-Johnson says.

IT managers are also concerned about data center-based applications running on Internet-facing Web servers. Though security scans or PCI vulnerability assessments can pinpoint problems with legacy applications, fixing issues in the actual application is too difficult and costly, Network Box states.

“While Intrusion Prevention Systems can do wonders for protecting the Web servers themselves, it (and other similar technology) is limited in its ability to protect custom applications running on those servers,” Webb-Johnson says. IPS can detect and block generic attacks, he says, but targeted attacks against custom applications are beyond the scope of most IPSs. “This is where Web Application Firewalls come in,” he adds.

A MODULAR APPROACH

In addition to the WAF module, the NBRS Ver5.0 platform features other modules and components that assist in protection. These include a Network Input layer that receives network traffic and ensures that it conforms to fundamental IP protocols. This layer also handles common DoS (denial of service)/DDoS attacks, which occur when an attacker floods servers with requests, overwhelming the servers and preventing them from providing expected services.

An integrated Network DDoS Security module, meanwhile, also protects against DoS and DDoS attacks, primarily through the use of five techniques that identify malicious attack behavior and dynamically block the attacks as well as the identified sources of attacks. Globally, Webb-Johnson says, DDoS attacks have been gaining considerable attention, putting enhanced DDoS mitigation high on the list of security features IT managers are currently seeking. “Network Box’s WAF system provides not only real-time push-updated Web application protection, but offers exactly the kind of effective yet affordable DDoS mitigation organizations are looking for,” he says.

Elsewhere, a Network Selection phase classifies traffic and determines



Pierluigi Stella

CTO, Network Box USA

“IT managers need a comprehensive, full-serviced, universal view of their network gateways. And not just from a security perspective but also from the viewpoints of compliance, reporting, and business continuity.”

if additional processing is needed. An Input Translation module enables high-level translations between all combinations of the IPv4, IPv6 (the Internet protocol that follows IPv4), and SSL protocols. “This year, the IPv4 address space has been officially declared exhausted. Though there is no need to panic just yet, be prepared to face reality, because soon enough, they’ll be gone for good and IPv6 will be the order of the day,” Stella says. “For this reason, IPv6 support and innovation are foundational aspects of

Network Box 5.0.”

Finally, the NBRS Ver5.0 platform’s Web Server Proxy module handles connections in and out of the actual WAF, decoding the HTTP protocol and enforcing policy. Outgoing traffic that successfully passes through the WAF moves through additional modules before passing through a Network Output module on to the protected Web server. Impressively, all these actions occur without impacting the core WAF’s effectiveness.

THE REST OF THE STORY

Network Box has designed the NBRS Ver5.0 platform to function on all of the company’s modern UTM hardware devices, including those that customers are currently running. The company is making the technology free to current users of its UTM devices and states support for older hardware is coming. Additionally, such options as hardware acceleration for certain NBRS Ver5.0 functions, including SSL and VPN encryption, are expected for upcoming release. ●



Mark Webb-Johnson
CTO, Network Box Corp., Ltd.

“Network Box’s WAF system provides not only real-time push-updated Web application protection, but offers exactly the kind of effective yet affordable DDoS mitigation organizations are looking for.”



The Enterprise Threat Landscape

EVERYONE IS A TARGET

To understand how dramatically the security threat landscape has changed in recent years, consider these numbers from Pierluigi Stella, CTO for managed security services company Network Box USA (www.networkboxusa.com). In 2003, when Network Box USA was founded, its network security device ran roughly 20,000 antivirus signatures. Today, it runs 8 million-plus, along with real-time/zero-day antivirus protection. "The sheer idea of zero-day is entirely new compared with nine years ago," Stella says. Today, the company's real-time

antivirus protection runs an average of 200,000 zero-day signatures daily. "That's the major change to the threat landscape," he says. Overall, the threat landscape for enterprises and individuals is constantly changing and requires diligent maintenance and updating of security measures. Fail to do so and disaster waits.

NOW & THEN

Jon Oltsik, Enterprise Strategy Group (www.enterprisestrategygroup.com) security and network analyst, says what hasn't changed much over

the years threat-wise are the types of threats at work, including spam, phishing, viruses, rootkits, APTs (advanced persistent threats), and others, all of which are collectively categorized as malware. What's new, he says, is the volume and sophistication of attacks and the footprint: beyond PCs to mobile devices, Internet apps and services, etc.

"The volume of attacks has grown exponentially," Oltsik says. "Threat vectors have evolved from email and network worms to Web, documents, etc. The attack surface is also much bigger.

Key Points

The security threat landscape is in constant flux, requiring regular maintenance and oversight of security protection.

Every company, no matter how small or large, is a potential target.

The ways attacks are distributed have changed greatly over time.

Social networking is a new area where threats are becoming prevalent.

Five to seven years ago, most attacks targeted Microsoft Windows. Now attackers hack into mobile devices, Web applications, Macs, etc. The attacks are also more damaging. If 500 PCs were compromised it was a productivity and IT operations problem. If my IP is stolen, it's a serious business problem."

Guillaume Lovet, senior manager with Fortinet's FortiGuard Labs (www.fortiguards.com) threat response team, cites 2005 as a turning point. "That's when malware became totally monetized. From then on, close to 100% of malware pieces or viruses had a financial motivation. Cybercriminals started to employ various business models to monetize the infected machines," he says. This ranged from planting adware to intercepting banking credentials, with botnets playing a central role. Botnets are essentially armies of global computers that cybercriminals have infected in order to execute attacks.

In 2003, Stella says, viruses were delivered one email at a time. "We had plenty of time to find the virus, create a signature, and push [the signature] out to our devices before the real outbreak took place." Further, threats remained around for a while. Over time, hackers used botnets to launch spam and then viruses. Today, a new virus is sent to the botnet, and the outbreak is launched in massive simultaneous attacks, Stella says. "This exponentially augments the chances of the outbreak being successful because as millions of copies of the same malware are sent from a botnet the chances of getting through someone's antivirus are higher than they used to be, simply because of a numbers game," he says. This leaves antivirus companies little to no time to react.

Another change is that creating viruses once required extensive networking, OS, and computing skills. Eventually, however, hackers built tools to create virus variants in seconds, Stella says. "In 2006, we assisted to the first such example, when in one bad night in June the Bagle worm was released in 256 variations. . . . It was a clear sign of what was to come."

WHO IS TARGETING YOU

Most company-related cyber incidents, says Lovet, stem from insider threats, such as a disgruntled employee. Outside threats, he says, generally fall into several types, including "hacktivists," or protesters seeking revenge or to punish a company for "its corporate attitude." Threats often take the form of DDoS (distributed denial of service) attacks that "cripple a company's servers" and network penetration attacks that attempt to compromise customers' records. The goal "is to make as much noise as possible," Lovet says.

Hired hackers, meanwhile, are highly talented individuals or teams hired by rival companies or governments seeking to steal intellectual property and trade secrets. Here, APTs are common. Most companies that are victims "are probably not even aware of it," Lovet says. "It usually involves the use of social engineering, zero-day exploits, and sophisticated Trojan horses." A third threat type involves cybercriminals "in it purely for the money." Although cybercriminals may focus on a specific target by planting a Trojan such as Zeus, most "employ a strategy akin to throwing their nets as widely as possible to see 'what fish get caught in it,'" he says.

Zeus operates by using key logging to steal victims' data, such as banking credentials. It can also take and send screenshots of a user's Desktop and intercept second factors of authentication or one-time passwords to immediately initiate fraudulent transactions while simultaneously modifying the account balance in the victim's browser to keep transactions unnoticed, Lovet says.

A computer threat "always boils down to some sort of malware," Stella says. It is most important to understand how threats spread. "The threat varies in terms of how you can actually receive it," Stella says. "Many users are



Pierluigi Stella

CTO, Network Box USA

"Everyone is a target. We all have information stored in our networks that can be used in some way or another."



Guillaume Lovet

senior manager,
FortiGuard Labs

"[After 2005,] close to 100% of malware pieces or viruses had a financial motivation."

unaware that HTTP (and HTTPS) have become the most relevant vector to deliver threats." For example, a Trojan embedded in an HTML page isn't immediately visible, "often not until the damage is done," he says.

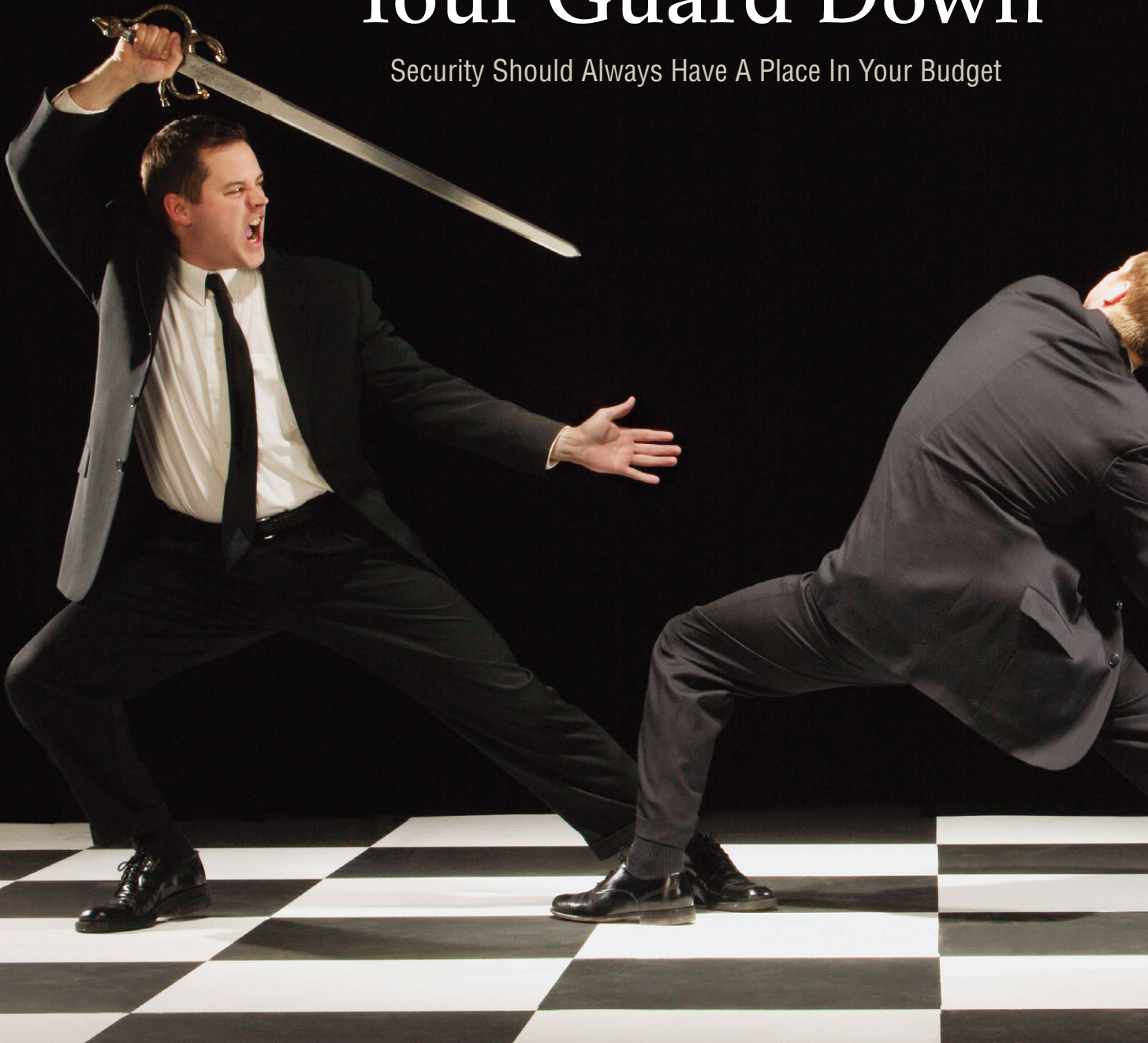
Elsewhere, spam, phishing, and other scams have become common on social networking sites. Examples of major outbreaks are countless, Stella says, including tweets that carry viruses and social engineering schemes whereby attackers pose as friends to get data.

STATE OF MIND

In general, remember that attackers are typically highly trained, often unscrupulous individuals. "Everyone is a target," Stella says. "We all have information stored in our networks that can be used in some way or another." Thus, don't look at security as "a piece of hardware" but as something to practice daily, Stella adds. Beyond having relevant security gear in place, Lovet says, ensure that all applications are up-to-date; educate users to online dangers; and follow a security program lifecycle that includes constant planning, organizing, implementing, operating, maintaining, monitoring, and evaluating security measures. And Olstik adds, "assume you will be attacked and become very good at incident detection to minimize damages." ●

Don't Let Your Guard Down

Security Should Always Have A Place In Your Budget



Key Points.....

Security should be the second most important item on your IT budget, just behind your mission-critical devices and applications.

Avoid cutting essential security costs from your budget without first understanding how a lack of security can negatively affect your company.

Know what types of devices used in your company will need to be protected and select the best possible solutions to fully secure them.

Always look to the future and take advantage of new, innovative security solutions whenever possible.



Some companies look to security as a place to cut costs, or worse, cut corners, but this can jeopardize the reputation and longevity they have worked so hard to build.

Most companies spend decades establishing their reputations and attempting to guarantee their longevity. They invest in the most advanced devices and keep up with emerging technological trends to ensure they get a leg up on the competition. The problem is that evolving alongside IT advancements can be costly, especially since most businesses are being forced to lower their budgets and create prioritized lists of what to keep and what to let go.

The truth is that security solutions should be viewed with (or close to) the same importance as the computers, smartphones, and other devices they are meant to protect.

"Security should be second only to the absolute mission-critical applications," says Mike Donnell, CEO of eSoft (www.esoft.com). "The idea being that once you have covered the costs to implement and support mission-critical functions, the next thing you need to do is to secure them to ensure they are available and that your critical data and ability to operate are not impaired."

Knowing the importance of security is an important step in the process, but it's only the beginning. From there, you must understand how cutting your security budget can negatively affect your company; what infrastructure, applications, and data need to be secured and how to properly protect them without incurring major costs; and how to prevent future threats, which can end up being much more costly than putting preventative measures in place from the beginning.

COST OF CUTTING YOUR SECURITY BUDGET

If you're thinking about cutting your security budget, remember that

the technological foundation of your company includes data that hackers and other outsiders are hoping to access. "If something has value to you, it has value to others," says Chris King, director of product marketing at Palo Alto Networks (www.paloaltonetworks.com). "And if it has value to others, and you don't protect it, it will be stolen."

You must also understand that as your company continues to evolve, so will outside threats, which means that you will need to continue investing in security for as long as you're in business. If you don't, you might not see the true importance of security until it's too late. "Cutting back on security usually means that the likelihood of stopping and properly handling threats diminishes," says James McMurry, president and CEO of Milton Security Group (www.miltonsecurity.com). "Many times, return on investment is hard to track with security until you cut back on it. The first time your data is breached or your network is taken down due to malware or a virus will be the first time you can judge the true cost of security and budget cutbacks."

Investing in security can also be viewed as a money-saving tactic in its own right. According to Donnell, "companies can actually reduce their IT spending by investing in preventing security events, such as intrusions or virus infections, since the costs of reacting to these events in hard costs—like PC hard drive clean-up or replacement—can far exceed the costs for a good comprehensive security solution."

Extensive security measures are like insurance policies. You pay a price up front to put them in place, but they will protect and keep you covered in the event of an unforeseen security breach. For this reason, they should be higher on your budget priority list. In fact, McMurry recommends that most companies have a "bare minimum of 5% of IT budget geared toward security," unless they handle particularly sensitive data or

"are bound by agencies like NERC, FERC, or HIPAA," in which case security should be a minimum of 20% of the budget.

EMPLOYEE-BASED SECURITY IMPROVEMENTS

Not all security measures will involve technology investments. Some don't require any additional costs at all. Security attacks and breaches are often the result of human error, so a logical place to start is with employee education. "Knowledge is power," says McMurry. "Threats keep changing, and knowing what's out there is the best way to keep your company prepared."

Other experts agree with McMurry, including Donnell, who says that "eSoft is finding 15,000 new viruses per day." And these viruses are taking advantage of established Web traffic patterns. Donnell says that "60 of the top 100 most frequently visited websites hosted or redirected users to malicious content and 40,000 unique phishing sites are launched each month." If you can

train your workforce to spot potential virus hotbeds and show them how to avoid phishing sites and scams, it will make it much easier to prevent the smaller intrusions that can lead to large-scale security disasters.

One way to do this effectively is to institute security policies for your entire company. These policies should lay out what employees are allowed to do and what types of situations they should avoid. Also, when formulating security policies, companies must look at the nature of the business itself as well as what needs to be protected. "Companies have to figure out for themselves what kind of policies they want to adopt," says Donnell. "Some companies are very risk tolerant and others are much more risk averse, but every organization must figure out what kind of benefit vs. risk balance they should strike."

Donnell says that policies should be simple enough to avoid confusion, but detailed enough to leave no room for interpretation. He recommends that companies simplify the

translation between the IT department and employees and to avoid "arcane mixes of ports, protocols, IP addresses, and URLs." Instead, policies should focus on the uses of specific applications, security protocols for sensitive data sent via email, and other situations. Setting up a series of policies for employees to follow is one way to add little or no additional cost to your IT budget while simultaneously improving the overall security approach of your company.

KNOW WHAT NEEDS PROTECTING . . .

After you've educated employees and instituted policies, it's time to look at the security needs of your company on an application-by-application and device-by-device basis. Almost every facet of your company will require a different form of security targeted directly at the needs of that specific app or device, so you should look at what programs and products your employees are regularly using. For instance, some companies don't require their employees to travel, which means that laptop or smartphone security may not be a strong focus. But other companies may have a fully mobile workforce that need external access to the company network, which requires additional security measures.

In the same way it wouldn't make sense to put an elaborate surveillance system around a woodshed, it isn't financially responsible to purchase more security solutions than you need. But on the other hand, it isn't a good idea to be unprepared without at least enough security to protect the most crucial resources of your company. Most businesses will need to protect computers (whether they are desktops or laptops), mobile devices (such as smartphones or tablets), and



Mike Donnell
CEO, eSoft

"Over 60% of all phishing sites are actually legitimate sites that have been compromised, so having Web filtering that includes a very current and complete database of the World Wide Web is critical for basic network protection."



Chris King
director of product marketing, Palo Alto Networks

"Business comes with risk. Security is about managing it. Doing so everywhere is a challenge, but moving to a model that embraces the fact that both users and applications can be anywhere is a good start."



James McMurry
president and CEO, Milton Security Group

"When you attempt to test your own network, usually a company will test the known items. An outside firm will think outside of the box and perform penetration testing to find the holes the company didn't think about."



Pierluigi Stella
CTO, Network Box USA

"Having an email server compromised is not only a technical nightmare; it is also a high security risk you do not want to run into."

the internal network. By surveying your company's technological landscape, you can determine what needs to be protected and what types of solutions will be best to implement.

... AND HOW TO PROTECT IT

After you've determined what products your company needs to secure, you can start looking at possible solutions for those devices. McMurry recommends categorizing devices into mobile and non-mobile groupings to make the solution selection process easier. "Non-mobiles, such as desktops or servers, have the advantage of not moving off the network," he says. "But mobile devices, like laptops, tablets, and smartphones, tend to be used in the wild, exposing them to threats more often."

In terms of non-mobile device security, you should put a strong focus on email and Web-based threats. According to Pierluigi Stella, CTO at Network Box USA (www.networkboxusa.com), all outgoing emails that contain any kind of sensitive information should be encrypted. For incoming emails, Stella recommends an "email gateway proxy or mail transfer agent," that prevents remote servers from making a direct connection to the server, but still allows you to safely view the information inside. A solid email security solution will also quarantine spam emails.

For the Web, it's a good idea to invest in a comprehensive antivirus suite that not only finds and removes viruses with a scan, but also prevents access to suspicious websites and stops malware before it gets through. An antivirus suite with a central console will be helpful for your IT department as well and make it easier to address potential issues.

Mobile devices, such as laptops, tablets, and smartphones, have their own particular issues, as well. Wi-Fi policies must be introduced that will help mobile workers discern which networks are safe to access and which ones aren't. Public Wi-Fi hotspots are particularly dangerous for these

devices and can lead to stolen data, so it's important to make sure a network is safe before connecting. Companies can also put a private network in place that will give traveling employees safe and secure access to internal company resources. You can also prevent access to this or any

your security approach, the better protected your company will be.

BE UP-TO-DATE & READY FOR CHANGE

Even if you have all of your devices properly secured with the correct types of solutions, it isn't the end of the road.



Milton Security Group's Edge7200i is an example of a network access control system that can accept or deny outside connections to your network.



Palo Alto Networks' PA-500 is a firewall solution with multiple security features, including website filtering, threat prevention, and many others.

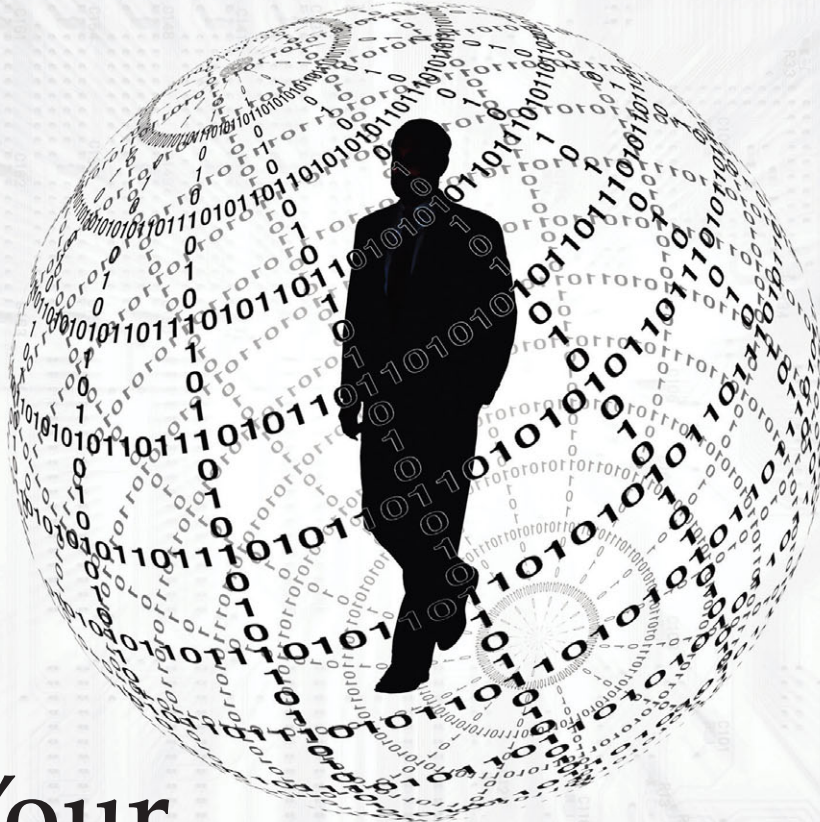
other type of network with a network access control system that will block unwanted outside connections.

Another way to protect a company's internal network is with a UTM (Unified Threat Management) solution, which serves as a gateway between your network and the outside world. And perhaps the best feature of UTM solutions is the ability to scale them up or down as needed. "A high quality Unified Threat Management device includes protection from all types of threats at an affordable price for any size office and can be easily upgraded as traffic needs increase," says Donnell.

In the end, it takes a combination of wide-ranging security solutions to fully protect your company and employees. You can start with a simple firewall that prevents access to your internal network, but each individual device will need its own specific solution. In essence, the more layers you can add to

You must regularly test your security, either internally or externally using an outside firm, to ensure that everything is working as it should. You have to make sure all of your solutions are updated and upgraded as necessary. Security software titles, especially antivirus programs, are often updated with tools to prevent the newest threats from attacking your company.

In addition to simply updating your security measures, you should always be on the lookout for new ones. "Unfortunately, security is not a destination, it is a process," says King. "As technology changes, businesses grow, compliance requirements change, threats change, and even the risk tolerance of organizations changes, security has to adapt. Furthermore, evolving the approach to security is important, because one cannot expect to secure brand new application and devices with 10-year-old technology. Security needs innovation too." ●



Put Your **BEST SECURITY** Foot Forward

BEST PRACTICES TO KEEP YOUR SMB SECURE

The truth concerning SMBs and security, says Pierluigi Stella, CTO of Network Box USA (www.networkboxusa.com), is that unless it's required or mandated to maintain standards, "too many SMBs don't do much at all with security." Many "barely have a firewall and some antivirus on the desktop," he says, and underestimate the need for more security. IPSs (intrusion protection systems) are rare, content filtering is lackluster, and VPNs (virtual private networks) aren't commonly used—and this is just at the gateway. At the network and desktop levels, he says, true endpoint security is rare and end users are relied upon to perform updates but instead turn off antivirus protection because, they claim, it slows down their computers.

Considering that well-organized, well-funded cybercriminals are currently launching more malware than ever, and mobile devices, social networking, and wireless networks are introducing more security risks for businesses, this lack of security is alarming. More than ever, SMBs should be diligently monitoring and maintaining stealth security protection.

FACTS OF THE MATTER

Several factors have significantly changed the security landscape in recent years for SMBs. As Secure Technician (www.securetechnician.com) CEO Monte Robertson says, "Threats and attacks are becoming targeted and stealthy as opposed to widespread headline grabbers. People think they are safe because they

don't see a problem, and that's exactly what the hacker wants."

Stella says the flood of malware has become unstoppable, increasingly taking aim at employee-owned devices and wireless networks. Additionally, attacks are sometimes borne from users unintentionally disseminating private data on social networks, and social networks have become malware sources. "We no longer talk about script kiddies," Stella says. "We talk about organized crime; we talk about hackers as a business, with objectives and budgets."

Jacques Erasmus, Webroot (www.webroot.com) chief information security officer, says that with increased use of Internet-connected mobile devices, "the threat landscape will show no signs of slowing down." Thus, security solutions

for SMBs will “reflect those changes by leveraging the cloud to deliver more effective protection against zero-day threats, automatically protecting employees and all their devices.”

MOBILE DEVICE CONCERNS

Mobile devices are “where the market is going,” Robertson says, and hackers go where the market does. Thus, mobile-specific security solutions are increasingly available to SMBs. Solutions should be able to locate lost or stolen devices, remotely lock or wipe data, and protect against viruses and spam, Robertson says. He also recommends enabling data encryption for mobile devices.

If allowing mobile devices on your network via local wireless connection, Stella says, ensure the connection is “kept separate from your LAN and there’s some sort of filter in between—firewall, IPS, AV scanning.” Many antivirus companies, he says, provide mobile-specific malware signatures. “Ensure your filtering device has that so your mobiles are protected, and if they’re already infected, you’ll be alerted and be in a position to take appropriate action.” For mobile devices used outside the company network, use VPNs to connect to the LAN, and “never allow clear text open connections,” Stella adds.

Erasmus says that “even having employees in remote offices makes it harder to manage security settings such as Web and email content filtering if you’re using an on-premise security solution.” Cloud security solutions, he says, are more effective than on-premise solutions for securing mobile devices because “they extend protection to the Internet layer instead of securing a perimeter that no longer exists.”

IN-HOUSE OR OUTSOURCE?

For SMBs with limited resources, outsourcing security can be a better option than maintaining security in-house. Typical SMB IT departments have a few people handling many responsibilities. “Security is not their main focus, nor is it their expertise,” Erasmus says. “Protecting a business network in today’s quickly evolving threat environment is a full-time job, and it requires a dedicated security expert who can focus on threats in real time,” a luxury SMBs often can’t afford. Factor in more mobile workers, he says, and IT managers must seriously question the effectiveness of on-premise security.

Stella says security experts who command high salaries are currently in high demand, so it’s not realistic for SMBs to retain a security professional long term. Moreover, “a single security professional cannot protect a company, no matter how small,” he says. “Security as a process is something that requires 24/7/365 dedication” and “a visibility of the Internet that a single person managing a single device can never have.” Foremost, he says, SMBs should consider outsourcing for the monitoring and management of a UTM (unified threat management) device protecting the perimeter.

If outsourcing security, ensure the provider maintains a response center that monitors the entire Internet and creates real-time signatures for up-to-date protection of its security devices, Stella says. Many companies underestimate security’s potential impact on the business’s overall performance, Stella says, and allow a network engineer to oversee security. “Network security and network diagrams aren’t one and the same,” he says. “Knowing ‘the language’ to configure a firewall does not make one a security expert, but it makes one dangerous enough to cause possible damage,” which could prove costly to the company.

SOLUTIONS TO ENLIST

Erasmus recommends solutions targeted at your sector. “A lot of enterprise-based security solutions are heavyweight solutions that require constant management,” he says. Most SMBs can’t afford these, he says, and should eye lightweight alternatives that don’t require massive management resources. “This will give them the best protection with the least drain on their teams,” he says.

At a minimum, Stella says, every business should have a firewall, IPS, gateway email protection, Web filtering, and VPN. Purchasing these tools separately, however, is costly initially, hard to maintain for SMBs, and requires expertise that may be unaffordable. Consequently, he says, there’s a real risk of spending money for nothing if the tools are not configured or are configured incorrectly. Conversely, obtaining these tools in one UTM device is a viable alternative, he says. “I cannot stress enough the importance of using a good UTM to protect your perimeter. Don’t forget antivirus at the end points, use VPNs when connecting remotely, but also use security best practices in everything you do,” he says. ●



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CTO, Network Box USA

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Monte Robertson

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ESSENTIAL BUSINESS TECH
EXECUTIVES, PROFESSIONALS & ENTREPRENEURS

STORAGE FOR Private Clouds

Leverage The Benefits,
Avoid The Pitfalls

Enterprises often see dollar signs when they consider how much money they might save by relying on a cloud provider for their storage needs.

In theory, at least, the advantages are obvious: an off-site cloud provider offers the necessary infrastructure and management services at a far cheaper price than what it would cost to maintain storage in-house.

But when data is stored on the cloud, the fear is that it is anyone's guess where and on what kind of infrastructure the data is housed. The data leaves the enterprise and is supposed to be accessed as needed, but the enterprise usually has very little control over exactly how and where it is stored. Some cloud services also fail to meet the security, regulatory compliance, and data-availability requirements that an enterprise may have.

For better data-management control and security, private cloud storage can serve as an alternative to a public cloud option. Private cloud solutions can also help enterprises remain compliant by guaranteeing that data is stored on dedicated equipment that is not shared with other customers. "Think of a private cloud as a particular application on dedicated resources. Private cloud storage offers an identifiable physical set of resources that are running that application on a specific server, a set of storage arrays, and a segment of a network," says James Staten, an analyst for Forrester Research (www.forrester.com). "Everything is 100% dedicated to a client and to that particular storage application on a private cloud."

However, enterprises should consider the drawbacks as well as the potential benefits before putting their most important and sensitive data on a private cloud. When looking to store sensitive data on a private cloud, the cloud provider's services and processes must be closely scrutinized to ensure that security and regulatory compliance requirements can be met. A private cloud solution for storage must also meet business requirements without unnecessary complexity or data-access latency compared to what traditional SAN (storage area network) environments offer.

SETTING UP A PRIVATE CLOUD

Creating and then managing a storage environment for sensitive, mission-critical, or other important data is usually a very complex undertaking for an enterprise to complete in-house. An advantage that private cloud storage offers is increased agility compared to setting up on-site storage. Besides the costs savings, a viable provider should be able to offer the capacity and capabilities required on demand.

"When a CEO previously asked a CIO how long it would take to [set up] a storage system for [mission-critical data], the CIO might have said, 'That will be three months and \$3 million and I will call you when it's done,'" says Gene Ruth, an analyst for Gartner (www.gartner.com). "With private cloud storage, the CIO just says, 'No problem, it will be ready for you in an hour.' That's what private storage is about: agility and provisioning on demand."

However, the pace at which service providers can set up a private cloud storage environment is immaterial if it cannot meet an enterprise's specific requirements and needs. A particular private cloud offering may seem like an attractive option, but it will fail if it interferes with business processes by not functioning properly. "It is important to ensure that the business logic and the data are kept close to each other," says Clive Longbottom, founder of and analyst for Quocirca (www.quocirca.com). "Latency, for example, can kill the system with slow response and data drop outs."

SECURITY, AUDITS & SLEEPING WELL AT NIGHT

Enterprises are usually hesitant about storing

their sensitive and mission-critical data on the cloud, and for good reason, considering the compliance risks inherent in relinquishing control of data to a third party without much influence over where and how it is stored. But the beauty of the private cloud is that enterprises know exactly how their data is stored and that their data is better protected than it would be on a public cloud.

"[Private cloud storage] will help on the regulatory front since there are no worries that the data is commingled with data from other companies or [if data is not supposed to be] stored off-shore," says Joe Malec, a fellow at the Information Systems Security Association (www.issa.org). "Some private cloud storage solutions may also help with collecting and managing data from different sources and geographic locations.

This helps with organization and management during audit time."

However, the level of security that providers offer can vary. "The devil is in the details. The private cloud storage provider should be treated as a third party consultant/vendor and the same oversight should exist," Malec says. "Considerations include how they gain access to the network, the kind of access they have, and how can access be restricted."

Enterprises also need to tread carefully about how much control a service provider has over the data. "You [likely] don't want [the private cloud storage provider] to have free reign of a company's environment. But if a company pursues this option, then they need to have a plan for the implementation and oversight of the system and the vendor," Malec says.



Gene Ruth

analyst, Gartner

"When a CEO previously asked a CIO how long it would take to [set up] a storage system for [mission-critical data], the CIO might have said 'that will be three months and \$3 million and I will call you when it's done.' With private cloud storage, the CIO just says 'no problem, it will be ready for you in an hour.' That's what private storage is about: agility and provisioning on demand."

Otherwise, he adds, "come audit time, things may not go very well if the audit finds no effective controls in place to ensure the protection of the environment."

THE RIGHT FIT

It can be difficult to compel users to opt for an enterprise's private cloud for sensitive data storage if it is difficult to access or use for individual purposes. Many users will also be tempted to rely on the many user-friendly data storage alternatives available in the consumer space.

The remedy is to take a survey of consumer storage solutions that users know and use for their own purposes and then find a private cloud solution that best matches what they are already accustomed to. "A big mistake is to not ask the users what their experiences are like when they use [consumer] cloud storage solutions," Staten says. "Enterprises really need to know what experiences they have to match."

Private cloud storage solutions that are at least as easy to use as consumer storage services can entice users to comply with policy when a private cloud needs to be used. Some private cloud data storage environments have interfaces that look and function like a PC hard drive. Other offerings reflect the popular Dropbox usage model.

But user adoption of private cloud storage in the enterprise can be too successful. Some users might rely on it more than they should, without realizing the expense involved.

According to Gartner, a private cloud storage service that includes automatic disaster recovery and downtime of less than 30 minutes per year can cost as much as \$20 per gigabyte per month. Comparatively, a public cloud storage solution might cost \$1 per gigabyte per month and only offer one-hour disaster recovery and suffer from disruptions of up to 48 hours per year, according to Gartner. The allocation of private cloud storage should thus be carefully managed.



Clive Longbottom

founder and analyst,
Quocirca

"It is important to ensure that the business logic and the data are kept close to each other. Latency, for example, can kill the system with slow response and data drop outs."



James Staten

analyst,
Forrester Research

"A big mistake is to not ask the users what their experiences are like when they use [consumer] cloud storage solutions. Enterprises really need to know what experiences they have to match."

"We see tons of people putting way more files than they should on a private cloud even though it is much more expensive than a public cloud," says Max Haskvitz, operations manager for eRacks (www.eracks.com). "There are also cases where executives might save all of their data to a private cloud storage network unnecessarily while all of the other employees' data is automatically stored on a public cloud, including sensitive data that should be on a private cloud." How should businesses address this problem? "I would prepare a basic map of data that you plan to put up on the cloud," says Haskvitz, "so you have a visual of your storage and structure needs."

➤➤ Private Cloud Market On The Rise

According to research company IDC (www.idc.com), the following are the latest and projected values of the global private cloud market. Figures include sales of hardware, software, and professional services.

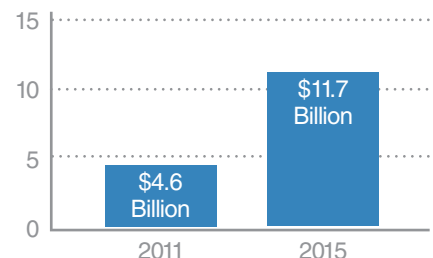
NO CONNECTION, NO SERVICE

One of the cloud's inherent risks is that it requires an Internet connection to function. Companies often need 24/7 access to critical data, so it's important to ensure accessibility for critical data stored on a private cloud.

One way to help ensure that connectivity will never be lost is to have two additional high-speed connections between the cloud network and the enterprise as a backup in case the main connection fails. "Someone can put a backhoe through the cable, or it could be dug up by someone wanting to try and reclaim the scrap value of it," Longbottom says. "There is always a need to ensure that there is a redundancy of connection."

Employing on-premise NAS (network-attached storage) systems can offer an additional layer of protection in case of a disruption. "Having a duplicate copy of your important storage data on a private cloud network as well onsite on a NAS system is [highly advisable]," Haskvitz says. "Let's say your private cloud connection gets interrupted for whatever reason, even for 30 minutes—that can really [cause problems] with a sale."

Maintaining duplicate copies of all private cloud data on a NAS system is a sound practice as well, even if the data is not mission-critical, Haskvitz says. "It never hurts to have an onsite NAS solution just to have yet another fallback for your data if the Internet goes down, the cloud access is interrupted, or you are in a sensitive setting that is not allowing outside access." ●





Since 1979, Sandhills Publishing has produced publications covering technology, beginning with the introduction of *Processor*. Over the years, the company has developed a complete line of computing publications, encompassing *Smart Computing*, *PC Today*, *Computer Power User*, and *First Glimpse*. Our plain-English approach has served audiences well for 30 years, ensuring that they receive accurate and unbiased technology information to meet their needs.



GREEN Technology For Business

How To Make The Changes That Actually Matter



“Going green” could arguably be one of the most popular catchphrases of the last decade. As trendy as the phrase might seem, it actually encompasses a number of practices that contribute to environmental sustainability and cut business costs in the long run.

In her book, “Greening Your Small Business,” Greenhance (www.greenhance.com) partner Jennifer Kaplan offers a long definition for what in the world people are saying when they claim they’re going green. “When people talk about going green, they are typically talking about efforts to reduce or mitigate carbon-producing activities that cause global warming,” says Kaplan. “The primary culprits are the by-products of burning fossil fuels

to provide the energy we use in the course of our daily lives.”

As noble as combating global warming might sound, there are plenty of practical ways a small business can execute an effective environmental management strategy.

RECOGNIZE AREAS OF IMPROVEMENT

To give some credit where it’s due, you’re probably already taking some steps toward greening your business.

You might have made a decision to do so when you were upgrading appliances or installing security features on your building. Do you have low-flow aerators on your faucets? These will save you two gallons per minute, which translates into energy and cash savings. And aside from being unflattering on the complexion, there’s a secondary reason to get rid of traditional fluorescent bulbs: low mercury CLF (compact fluorescent lamp) bulbs. They look like spirals and could save you hundreds of dollars

Key Points.....

By definition, a business that wants to “go green” is trying to reduce activity that would harm the environment.

..... Assess the lifecycle of your business to determine areas where more environmentally friendly practices are possible.

..... Engage your staff in sustainable strategies and practices.

..... Be true to your green standards for the sake of your own commercial reputation and your customers’ respect.



Hilary Kusel
executive director,
Green Business
Alliance

"Green Business Alliance is designed for a company to follow a set of guidelines to 'greenify.' GBA has outlined the steps necessary to become more environmentally friendly at a comfortable pace that can be determined by the business."



Linda Chipperfield
vice president,
marketing and
outreach,
Green Seal

"The more a business does to protect the health and environment of its customers, the better, as long as what it says is true."

annually. If you're using motion sensors for less frequented areas in your building, then you're currently reducing your company's energy consumption. Also, check to see if you're using a programmable thermostat and Energy Star-certified equipment to conserve heat.

Still, while all of these implementations are just fine, they're no more than a launching point from which you can take your small business from a yellow-green to a dark shade of green.

To improve your business environmentally, you need to look at its "lifecycle," says Linda Chipperfield, vice president of marketing and outreach at Green Seal (www.greenseal.org), a nonprofit organization that creates sustainability standards for companies (and consumers) that help promote a renewable environment. In other words, if your product or service is deemed worthy of the Green Seal logo, it has passed rigorous testing to meet sustainability requirements.

"We encourage businesses to buy or use third-party certified products and services to be sure that what they are getting is really protecting their staff, their customers, and the environment," says Chipperfield. "At Green Seal, we look at environmental issues such as biodegradability, VOCs, and whether a product is safe

for aquatic life or contributes to water pollution."

Hilary Kusel, executive director of the Green Business Alliance (www.greenbusinessalliance.com), says that depending on the type of business, a decision to not follow eco-friendly guidelines could be very damaging.

"A business should review their daily operations as they relate to the impact on our planet. If the business is not ready to make broad changes, choose one or two targeted changes that can be made relatively easy and inexpensively," Kusel says. "At the very least, move your business onto the green spectrum. From there, prioritize the various areas of your business that could use a green-over and put an action plan into place with deadlines for each task."

REPRIORITIZE INTERNAL OPERATIONS

Prioritizing green initiatives should include establishing a clear plan to reduce your business's eco-footprint, communicating the message to your staff, and asking them to partner in your vision by practicing energy-saving behaviors. Using promotional materials, such as posters and emails with friendly power-saving suggestions, you can request that employees power down their systems at the end

of the day, reduce paper waste, and bring washable dishware to work. To implement sweeping changes (when you're ready for them), you can recycle computer hardware, convert to digital signatures only, and invest in green cleaning products for janitorial services.

If you're ready to take some of these steps, but you're unsure how to get going on some initial strategies, visit the U.S. Small Business Administration's Green Guide For New Businesses at (www.sba.gov/content/green-guide-new-businesses). You can learn how to purchase environmentally friendly products, remodel your building to match green standards, and make changes that can prevent pollution.

CUSTOMERS & COSTS

Your customers' satisfaction will reflect your ROI, so be sure you deliver on the "green promises" you make.

"Anything a business says about green changes that it has made should be clear, relevant, and true," says Chipperfield. "It should provide enough information about how the changes really protect the environment so that customers won't be misled. It's all part of maintaining your customers' trust." In light of these customer expectations, the FTC is going to make it more difficult for companies to slap unsubstantiated environmental labels on products.

But, what is it going to cost you to carry out your trustworthy green philosophy? Well, maybe not that much. "There are numerous ways in which a company can become more environmentally friendly," says Kusel. "Some of these changes may involve a little bit of money but require a lot of flexibility within the operation, while others may be more costly but may not affect the daily operations as much."

Kusel says that in the long term, in addition to contributing to environmental sustainability, businesses will see cost savings because of increased energy efficiency, tax credits (where applicable), waste reduction, and the greater productivity associated with high employee morale. ●

Data Center Infrastructure Management

Get A Better View Of Your Data Center's Facilities

You may have heard of DCIM (data center infrastructure management) but aren't clear what it is. That's understandable. DCIM is still a relatively new market that carries many definitions. Despite this, DCIM is attracting an increasing amount of attention from enterprises seeking to improve the efficiency of their data center and enterprise's physical infrastructures. Forrester Research (www.forrester.com), for example, has projected the DCIM market will grow to 60% penetration by 2014, up from just 1% penetration in 2010. 451 Research (www.451research.com), meanwhile, forecasts the market will grow from \$250 million in 2010 to \$1.3 billion by 2015, a roughly 40% compound annual growth rate. For more about DCIM, read on.

WHAT IS DCIM?

Defining DCIM can be problematic simply because many definitions

abound. In fact, Paul Goodison, CEO of Cormant (www.cormant.com), a DCIM provider, says perhaps the most important point concerning DCIM is that "there is no single definition." He says, "It means different things to different people. Right now, it appears that pretty much anything that does anything in the data center space is being branded DCIM; that's not a good thing."

Originally, Goodison says, DCIM seemed to apply more to the physical infrastructure surrounding IT equipment in a data center. Now, DCIM has seemingly expanded to include IT equipment and "perhaps even come to mean a little less about the actual facility," he says.

Ultimately, DCIM can be broadly described as software that provides tools "that to a greater or lesser extent allow some level of documentation, control, visibility, and metrics of what is going on in the data center," he says. Some

DCIM solutions extend outside the data center, which is important, Goodison says, as managing problems doesn't start and stop at the data center door.

Commonly, DCIM is touted for providing a holistic view of the data center and possibly enterprise's facility infrastructures to enable real-time, granular views of power, cooling, and other IT and physical assets. Beyond monitoring and managing these assets, DCIM typically affords automation, optimization, and capacity



Paul Goodison
CEO, Cormant

"I can't think of an organization with more than, say, 50 to 70 racks that wouldn't benefit from a solution."

and budgetary planning abilities leading to improved energy consumption and costs and better overall efficiency.

In a February 2012 report, "Server And Data Center Predictions For 2012," Forrester asserted that while IT has been responsible for the data center's network, server, and storage equipment, the facilities group is often responsible for running the physical plant. Although hardware-monitoring software that enables the automation of system, network, and support functions has been available to IT, the same availability has been slower to come to

facilities management. DCIM solutions aim to fill this niche, Forrester states.

can be found and potentially, cooling better directed"), increased visibility to "squeeze more out of the existing infrastructure," lower FTE ratio due to quicker decision making and less checking required, lower CAPEX due to better planned purchases, less downtime due to better planned changes benefited by up-to-date data, and happier senior management who gain "visibility into the infrastructure."

Eventually, Goodison says some form of DCIM will become common for most organizations. "We estimate that over 90% of the market still uses spreadsheets for management, and I don't speak to many people who actually think this is the best way to manage (although there are some)," he says. "What I believe you will see is a divergence in solutions from some very expensive solutions requiring hardware that appeal to the very small group of customers who have a 'money is no object' view to a mainstream market of solutions that

data up-to-date. ("Auto-discovery is not a viable answer," he says.)

STATE OF DCIM

Forrester says more than 60 vendors now label themselves DCIM suppliers, and about two or three new vendors surface monthly. If the market mimics other emerging solution spaces, expect smaller players to drop out and merger and acquisition activity to continue. Overall, Forrester states enterprises using DCIM "will be rewarded with incremental power and cooling efficiencies ranging from 5% to 30%, depending on the initial state of the environment."

Goodison says he's been fascinated to see the number of solutions branded as DCIM. Currently, he says, DCIM is "a moving target, but even so, I think it's a bandwagon being jumped on right now." Additionally, there "seems to be some very high prices being charged for some solutions, and we suspect this is often to recover investments made

facilities management. DCIM solutions aim to fill this niche, Forrester states.

DCIM BENEFITS

Who can benefit from DCIM? A better question, Goodison says, is "who isn't a good candidate?" Although there are exceptions, he says, "I can't think of an organization with more than, say, 50 to 70 racks that wouldn't benefit from a solution." Traditionally, enterprises have monitored data center assets via spreadsheets, paper records, CAD drawings, and other "simple tools."

Processes, meanwhile, have included "lots of checking, large group meetings to decide what can be deployed, chaos, more checking, fire-fighting the downtime," Goodison says. DCIM supplants this while providing the ability to project intelligent what-if scenarios related to capacity planning. Although the need for DCIM isn't new, Forrester states, the reality of using one software solution that unites facilities, IT, and possibly application service delivery sectors is.

Specific benefits that enterprises can realize, Goodison says, include lower power bills ("zombie servers



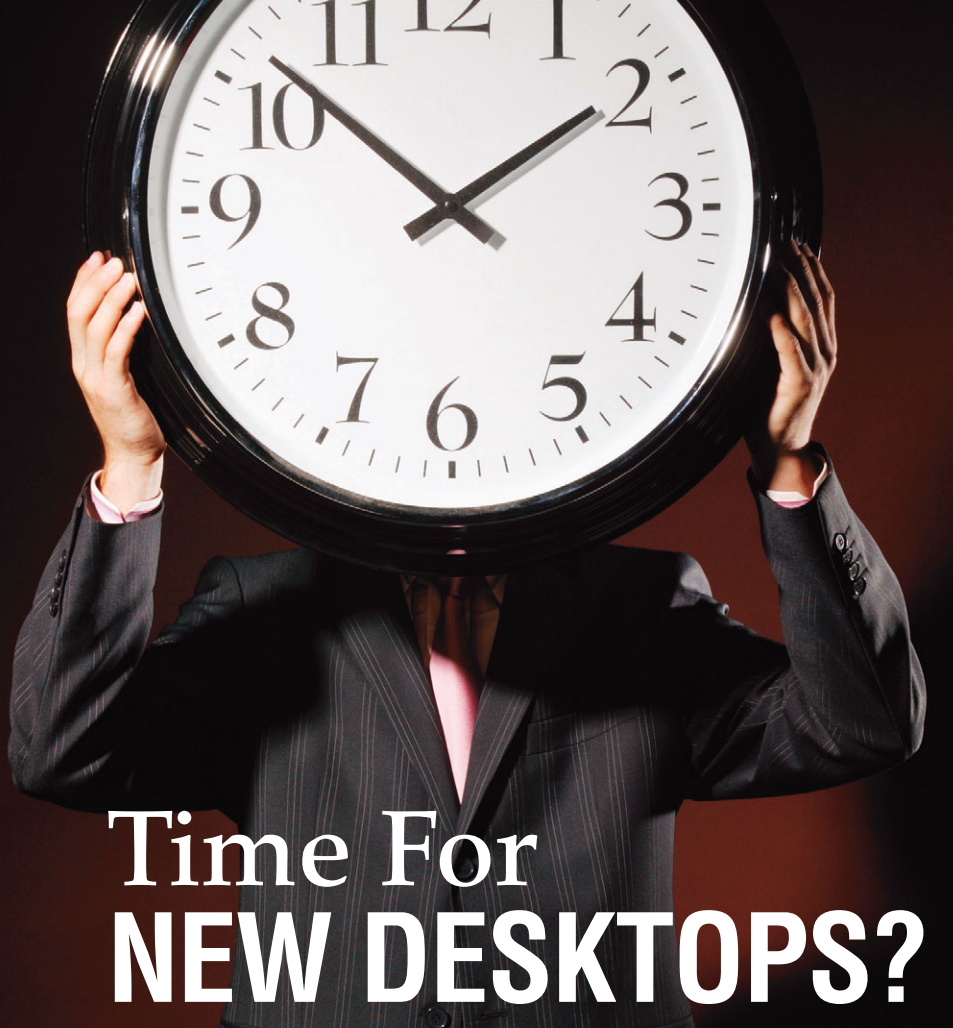
DCIM solutions, such as this one from DCIM provider Cormant, provide enterprises a software solution with a holistic view of the IT and physical assets in the data center and possibly enterprise's entire facilities.

are either independent or integrate with other tools from larger vendors but are still neutral in how they operate."

Goodison advises companies to look carefully at current management needs and how they'll grow in five years. Current DCIM tools vary greatly, and many vendors ask a small fortune for basic tools, he says, "often providing functionality and/or graphics that look fantastic but are going to be hard to maintain in the real world." Elsewhere, determine if a solution will actually save significant time and improve visibility and planning abilities and how it keeps

in companies." Goodison's advice is obtaining price indications early and making sure there's good definition of what's really required; "don't be swayed by a fancy feature."

By late 2013, Goodison expects pricing will fall to reasonable levels and functionality will somewhat converge. "We will see a number of vendors merge or fall by the wayside, as prices of solutions drop. However the underlying principles of infrastructure management will gain acceptance and adoption, perhaps reaching 80% of all large IT users by 2015." ●



Time For NEW DESKTOPS?

Decide Whether To Keep Or Replace Your Desktops

Technology evolves quickly and it can be difficult for businesses to keep up with new trends and products that enter the market. Computers, specifically, seem to become outdated not long after they're deployed. One of the toughest decisions any executive has to make is whether to upgrade the workplace desktops in any given year. You must think about cost, company needs, existing vs. emerging technology, among other factors. We'll explore a few considerations to keep in mind as you look into replacing your company's computers.

1 NEED NEW DESKTOPS?

There are many ways to extend the life of your current desktops, which may be a good option if they are less than two years old. You should look at the overall needs of your company and determine if your computers are capable of running the software your employees need in order to be productive. If you own a technology-based

company, you may need the newest operating systems and software. If not, you may be able to invest in other alternatives, such as virtual desktops or cloud computing.

"One option is the virtual desktop," says Andy Woyzbun, lead analyst at Info-Tech Research Group. "You don't operate the software on your PC. Instead, it's on a central server or on a server hosted by someone else. The question you have to ask is, 'Can I satisfy all the needs of my employees without a more powerful machine?'"

Woyzbun says that virtual desktops are great for running word processing programs and less intensive software but that this won't be a solution if your company needs the latest and greatest software titles. This question also extends to individual departments within a company. For instance, you may find that graphic designers need the newest computers and software to effectively do their jobs, but customer service reps or may not need comparably sophisticated

machines. The answer may be to only replace computers for the graphic designers but not the rest of the workforce. However, Woyzbun warns that this can lead to problems.

"If you have one department with Windows 7 computers, one with Vista, and another with XP, there is no way to make sure that the software your company needs will work on every machine," says Woyzbun. "The hassle of deployment may not be worth it."

2 WHAT IS THE TOTAL COST OF OWNERSHIP?

The second thing to consider is overall cost for your current desktops vs. the new desktops you would purchase. Total cost of ownership doesn't just include the initial cost of buying the hardware but also takes into account deployment, maintenance, and other issues. Each desktop may only cost \$400 up front, but extra warranties or service agreements, software installations, and general repairs will add up over time. Even electricity costs need to be considered, especially if you're thinking about investing in green technology.

"Electricity costs for desktops with flat monitors are usually around \$50 per year, but the reality is that in most jurisdictions, the cost of electrical power is going up," says Woyzbun. "Green machines use less power and over the long term you will definitely see the savings."

You should also weigh warranties and service agreements against future repair costs. If your existing desktops are four or five years old, they may be close to the end of their life. This could lead to expensive repair costs that could be avoided by purchasing new desktops. The key is to look ahead and know when your computers will no longer be worth putting extra money into and plan on buying new desktops then.

3 CAN WE JUST UPGRADE?

If your company is smaller in size, you may be tempted to upgrade your desktops with new operating systems

or even add memory. While this may be a short-term solution for extending the life of your computers, it may cost you more in the long run, especially if the computer needs hardware upgrades in addition to software upgrades.

"To upgrade a PC, I'd need to buy the upgrade license, which is around \$150 to \$200," says Michael Silver, research VP and distinguished analyst at Gartner. "Then, if it's an older PC, I may need to pay an extra \$50 to \$100 for more RAM. It will take a few hours to install the hardware and software so that costs as well. Spending a few hundred dollars to upgrade a four- or five-year-old PC often doesn't make sense. It's like paying \$3,000 to fix a 10-year-old car that's worth \$1,000."

Many companies see this problem when they want to upgrade from Windows XP to Windows 7. They realize their computers don't have enough power or memory to run the OS. If this is the case, you may want to invest that money in new computers.

4 SHOULD WE SWITCH TO LAPTOPS?

Another thing to consider is a switch from desktops to laptops but as with any technology, this has pros and cons. One benefit of laptops is that your employees can take them wherever they go. And now that laptops are getting faster and can hold more information, there may not be much of a drop-off in overall performance when transitioning from a desktop. Additionally, there are docks available that can connect your laptop to a keyboard, mouse, and monitor to create a desktop-like experience while in the office. However, there are drawbacks that could add up over the long term and make laptops a less viable option.

"Laptops tend to suck up more power than desktops," says Woyzbun, "so from a green perspective, they tend to be more expensive. Out of warranty repair costs are often more expensive as well."

The lifespan of laptops is also considered to be shorter than desktops, but that all depends on the wear and tear the laptops are likely to endure. The argument in favor of laptops is that they are portable and great for road warriors or regular travelers. But if you aren't taking these laptops out of the office, there isn't an overwhelming benefit to putting them in place of your desktops.

5 CAN WE WAIT FOR NEW TECHNOLOGY?

When it comes to deciding if you want to spend money on new computers or hold off, one last thing to gauge is where technology is now compared to where it's likely to go in the next few months or years. The most important thing you can do is plan ahead and not rush into buying new computers that you don't need. Memory and hard drive storage are getting less expensive every year so if your employees can work with the desktops they have now, you may be able to wait for better ones later on.

➤➤ Cut Costs By Planning Ahead

If you decide to replace your desktops, the best way to cut costs over the long-term is to plan ahead. Try to buy computers that can be easily upgraded and updated to maximize their overall lifespan and deploy them in phases rather than all at once.

"Obviously, buying new PCs can be quite a large expenditure for an organization," says Gartner VP Steve Kleynhans. "As such, it is important to take a structured approach. Realize that PCs do wear out over time and, as applications change, these computers can become less suitable for the tasks your users might have. Establishing a life cycle approach and applying it to your PC fleet spreads out the costs over time and makes it more of a process than a project."

Also look at the future of desktops in general. New tablet computers are introduced every day, and while most are nowhere near as powerful as desktop computers, some are becoming contenders for laptop replacements under the right circumstances. Research the changing computer market so you can buy devices that fit your company's long-term plans.

A WELL-INFORMED DECISION

The only reason to buy new desktops or any type of device for your company is so employees can adequately perform their jobs. Consider their needs when looking at new computers, but also remember to calculate the total cost of ownership and keep your company's future plans in mind. If you do so, you should be able to make a decision that will benefit both your workforce and your company as a whole. ●



Andy Woyzbun

lead analyst, Info-Tech
Research Group

"The easiest way to look at it is that the power, processing speed, and memory needed in your desktop is determined by the most sophisticated software that your employees use."



Michael Silver

research VP and distinguished analyst, Gartner

"Unless you're going to get at least two more years of useful life out of a PC, we probably would not suggest spending the time or money to upgrade your operating system."



Steve Kleynhans

vice president,
Gartner

"If you take the time to plan out your PC procurement across the year, you will find yourself in a much better position to negotiate a deal with a reseller or PC vendor."



DISPLAYS

A Guide To Features

With a dizzying array of available models, today's monitor market can leave buyers perpetually pondering their purchase decisions. Arming yourself with the right knowledge around display technologies and features can help pinpoint those decisions and ensure you choose the right monitor for your business. Here's a look at the primary feature categories and how they should influence your purchase.

SIZE & WIEGHT

► The most common sizes for desktop LCD monitors range between 17 inches and 30 inches, with weights ranging roughly between 8 pounds and 40 pounds. Selecting the proper size for your business needs depends on several factors, including price, desktop space and structural support, and the work being performed. Generally, the larger the screen size, the heavier and more expensive the monitor, but prices can also vary depending on other features, such as panel type.

Smaller monitors (such as 17-models) usually aren't available in widescreen formats, which can impact work production. Widescreen monitors, particularly models at 22 inches and larger, can allow employees to display multiple program windows simultaneously, which can boost productivity and save time. Depending on the job, a widescreen monitor might not be ideal, so it's best to check with individual users before making a purchase decision.

PANEL TYPE

► As the evolution of LCD technology continues, the market is becoming more crowded with various monitor panel technologies. LCD panels differ in how they use liquid crystals to display images on the screen, but these actual methods aren't as crucial to the buying process as their effect on elements such as brightness, response time, color reproduction, and price.

The most common panel type is TN (twisted nematic), which boasts fast response times and inexpensive prices, but monitors using TN panels tend to have narrow viewing angles and lower-quality color reproduction and brightness when compared to other panel types. TN panels are suitable for most business environments.

IPS (in-plane switching) panels are more expensive and can have slightly slower response times than TN panels, but they boast impressive color reproduction and viewing angles, making them suitable for design, publishing, photography, and other environments where color accuracy and collaboration are paramount.

RESOLUTION

► A physically large display doesn't necessarily mean the monitor has a large resolution, so it's important to consider resolution when considering a monitor purchase. Higher resolutions can display more content on the screen than lower resolutions, so if you're comparing similar monitors with different resolutions, the model with the higher resolution is usually a better choice.

Fortunately, from a shopper's perspective, most monitors within the various size ranges have standard resolutions, such as 1,440 x 900 pixels for 19-inch models, 1,680 x 1,050 pixels for 22-inch models, 1,920 x 1,080 pixels (the minimum resolution for high definition) for 24-inch models, and so on. Users accustomed to low resolutions might initially balk at the smaller size of certain objects and text on a screen when viewing a higher resolution, but the overall larger display real estate almost always is ultimately preferred.

BACKLIGHT

► Although an LCD's panel plays the leading role in the color quality of the monitor, the type of backlight it uses can also have a direct impact. Required to illuminate the LCD panel, backlights vary in their technologies and their influence on overall monitor price. The least expensive backlight variety is CCFL (cold cathode fluorescent lamp), but this technology is becoming less common due to the rise of more advanced—yet more expensive—LED backlights.

Side-by-side comparisons of monitors typically reveal that LED-backlit monitors have more pronounced colors, blacks, and whites than CCFL-backlit monitors, but CCFL models can boast more accurate color reproduction. LED backlights are also more environmentally friendly, both from lower power consumption and disposal standpoints. If a business must purchase a large number of monitors, it should keep in mind that the heavy mercury content of CCFL backlights could equate to hefty disposal costs, where as LED recycling costs are far friendlier.

BRIGHTNESS

► Walk into any consumer electronics retailer, and you'll see LCD televisions with their brightness levels cranked to the max to lure customers. However, turning down the brightness will reveal deeper, more accurate colors and reduce eyestrain. The same applies to desktop LCD monitors, so it's not necessarily a must to shop for monitors with high brightness levels. For basic office work, a cd/m^2 (candela per square meter) rating of between 250 and 350 is considered sufficient.

A monitor's contrast ratio is directly related to its brightness levels. The contrast ratio is the difference between a display's maximum brightness (or white) level and its minimum brightness (or black) level. In general, higher contrast levels (for example, 1,000:1) are desired for sharp, vivid images. Take note that a sky-high contrast ratio, such as 1,000,000:1, is a reflection of dynamic contrast, which works a bit differently than standard (or non-dynamic) contrast. If a monitor's contrast is important for a buying decision, it's best to see the monitor in action before making the purchase because it can be difficult to gauge the true contrast level based solely on ratings that might not reflect reality.

CONNECTION TYPE

► Once dominated only by analog VGA (Video Graphics Array), the display market now teems with connection standards designed to make the most of high-quality video. For business users, a monitor's connection type is vital primarily from a compatibility perspective. Most modern LCDs include a DVI (digital visual interface) port for direct digital connection to a computer, while many also include a legacy VGA port. However, some monitors include only an HDMI port or the newer DisplayPort connection.

DVI is appropriate for nearly all business display uses, but an HDMI port is typically required for connection to high-definition components, such as a set-top box or Blu-ray player. Also, if a preferred monitor has a DVI connection but the computer has only a VGA port, an adapter can be used to complete the connection. For the best picture quality, a connection using the same display standard on both the monitor and computer (for example, DVI to DVI) is preferred.

EXTRAS

► In a highly competitive market, display manufacturers go to remarkable lengths to add value to their products. For buyers, these extras can equate to more convenience, productivity, and even cost savings in the long term. For example, some monitors include USB ports and memory card readers than can deliver quick access to data stored on flash devices. Many of today's models also include extensive power-saving options, such as ambient light sensors that automatically adjust the monitor's brightness based on the room's current lighting. Many of these extra features should be considered just that—extras—because display will always remain the principal role of any monitor.



Symantec has completely overhauled its Backup Exec line of backup software for businesses of all sizes.



Business Software

The Latest Releases & Updates

When you keep on top of new and updated business software, you can learn about ways to enhance your business by upgrading or adding to your technology solutions. Our coverage of the latest releases and updates in the world of business software includes products that can help you collaborate, create, and maintain security online.



To help you zero in on what's new, here's our latest roundup of business software releases and updates.

SPACES BY MOXIE

Moxie Software (www.moxiesoft.com) released Spaces By Moxie at the end of March. Billed as enterprise social software, Spaces By Moxie is based on an understanding that although businesses are investing in social media to increase customer awareness about their brand and their products, their social media endeavors are often walled off from their internal communications. Viewing this as an important gap that needs a bridge, Moxie designed Spaces By Moxie to merge internal and external collaboration and communications features into a single solution. The idea is to keep internal departments (customer service, sales, marketing, IT, and human resources) on the same page with external communications in order to improve customer relations. In addition, says Moxie, Spaces By Moxie integrates with existing CMS, CRM, ERP, HR, and other systems.

SYMANTEC BACKUP EXEC 2012

Symantec's (www.symantec.com) new Backup Exec 2012 represents a complete redesign of the company's Backup Exec line of backup software for businesses. The software's updated interface is designed to bring clarity and simplicity to managing the backup processes by shifting the primary focus to the data getting backed up rather than the technicalities of the backup job. Multiple versions of Backup Exec 2012 are available for different business sizes and needs. In addition to the enterprise version, there is a Small Business Edition

geared toward businesses with little or no IT support and limited technical experience. The V-Ray Edition is geared toward protecting virtualized environments, the Exec.cloud product provides cloud-based services for companies that need a simple “set-it-and-forget-it backup strategy,” and the Backup Exec 3600 appliance is a pre-packaged hardware-and-software solution that includes 5.5TB storage. All versions are now available.

MICROSOFT OFFICE 365

Microsoft Office 365 (office365.microsoft.com) is a Web-based solution that combines an online version of Microsoft's Office productivity suite with email, calendar, Web conferencing, website, and file sharing features. Microsoft says the user base for Office 365 has been growing, and now the company hopes to further the service's growth by reducing the pricing for its Office 365 enterprise plans by as much as 20%. The plans for mid-sized businesses and enterprises now run \$8 per user per month for the full service plus Active Directory synchronization, spam filtering, and SharePoint intranet; or \$20 per user per month for all of that plus desktop Office 2010, unlimited email storage, and hosted voicemail. The email-only and small-business plans remain at \$4 and \$6 per user per month, respectively. All of the plans work with desktop versions of Microsoft Office 2007/2010 for Windows and Office 2008/2011 for Mac.

TREND MICRO DIRECTPASS

For individual users who would appreciate some extra security on their laptops when traveling, Trend Micro (www.trendmicro.com) now offers DirectPass software. DirectPass is primarily a password manager, offering all of the features one would expect from that category: one-click login for websites; encrypted storage for all online login IDs, passwords, and other credentials; automatic form completion; a strong password generator; and a single location for managing passwords. In addition to covering the basics, Trend Micro's DirectPass also includes a secure Web browser for working with financial and other high-security websites, a way to make confidential notes and store them away from prying eyes, and automatic data synchronization across Windows, Android, and iOS devices. A scaled-down version for storing five passwords is available for free. The full version, supporting unlimited passwords, is available for \$14.95 for a one-year license or \$24.95 for a two-year license.

CABINET NG CNG-SAFE 7.5 & CNG-WEBSYNC

Cabinet NG (www.cabinetng.com), which makes document management and electronic workflow management software, has released two new products in these categories: CNG-SAFE 7.5 and CNG-WebSync. Among the new features included in CNG-SAFE 7.5 is automated field population for

PDFs, which is especially useful for offices going paperless. CNG-SAFE 7.5 offers more interface customization options than previous versions of the software, as well as enhancements to Cabinet NG's QuickBooks plugin. Cabinet NG's new CNG-WebSync is desktop software that links CNG-SAFE with third-party cloud services (such as Web-based CRM software). The goal here is increased efficiency, as users can access a particular contact or account in their CRM system and then use CNG-SAFE to work with folders and documents for that contact or account without leaving their CRM system. Both CNG-SAFE 7.5 and CNG-WebSync are now available.

SYNTELIC TRUCKLOAD OPTIMIZER

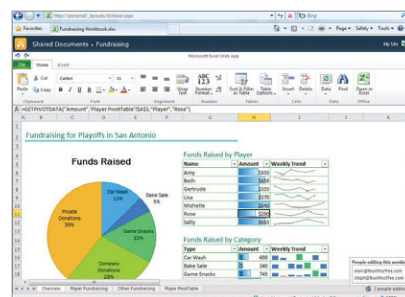
The new Truckload Optimizer enterprise software from Syntelic Solutions (www.syntelic.com) promises better truck trailer use, including the elimination of unnecessary loads, for companies that ship products using their own fleets or third-party carriers. According to Syntelic, the software tracks pallet load density so that the appropriate combination of light and heavy pallet loads can be used. Trailers can then be filled to capacity but not exceed weight limits.

ATLAS BUSINESS SOLUTIONS
SCHEDULE ANYWHERE

Atlas Business Solutions' (www.abs-usa.com) Web-based employee scheduling software, ScheduleAnywhere, has been updated to include new communications features for managers. The new features let managers notify employees via email or text of just about anything: schedule changes, shift information (open shifts, availability of hours, and so on), upcoming meetings or events, or even simply when a new schedule is available for viewing. Managers benefit from the ability to send messages within the software; employees benefit from direct, up-to-the-minute updates. ●



Spaces By Moxie helps enterprises integrate internal collaboration with external social media sites to increase awareness in multiple directions.

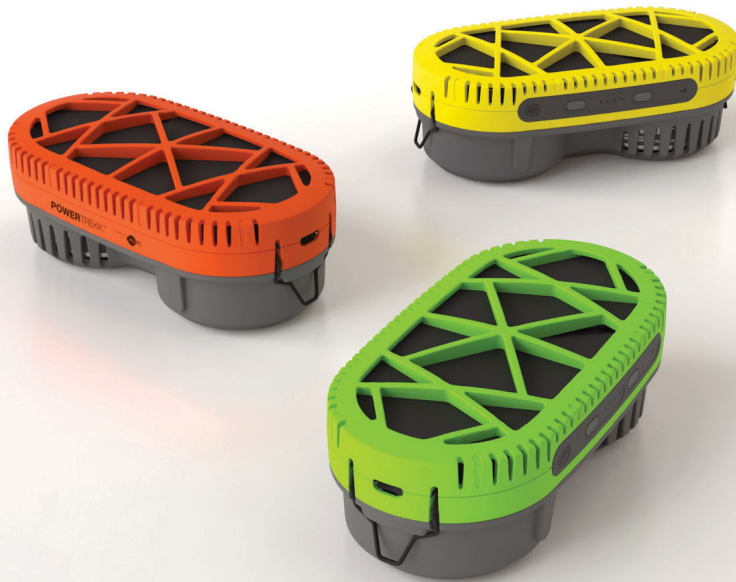


Microsoft recently lowered the rates by as much as 20% for its Office 365 plans for midsized and enterprise businesses.

Greenovations

Energy-Conscious Tech

The electronic devices that make our lives easier also produce some unwanted side-effects on the environment. Fortunately, many consumer electronics manufacturers and businesses are working to create products that keep us productive while reducing energy demands to lessen our impact on the environment. Here, we take a look at the newest environmentally friendly technology initiatives.



The PowerTrek can charge your smartphone or power a USB device almost anywhere using not much more than a fuel cell and a tablespoon of water.

WATER-POWERED PHONE CHARGER

A new company called myFC is taking water power to a whole new level with the PowerTrek mobile phone charger. To use the PowerTrek, all you have to do is pour approximately one tablespoon of water into a built-in reservoir, put in a fuel cell, and then attach it to any supported USB device. A tutorial video on the PowerTrek website (www.powertrekk.com) shows the product powering an iPhone, a portable lantern, and other devices. The PowerTrek could not only be a convenience for outdoor adventurers, but for people in developing countries with little or no access to power grids as well.

MORE ADVANCED TEMPERATURE CONTROL

Neurobat is a new startup that has designed a temperature regulator that aims to change the way buildings are heated. Instead of using only temperature information from outside a building, the Neurobat takes multiple factors into consideration when determining how much energy is actually needed for heating. The product looks at the properties of the building itself and how it distributes or dissipates heat; the amount of people in a room as well as their effect on the environment; and the sun's positioning relative to the building itself. According to researchers at Neurobat, this approach could lower energy costs and usage by as much as 65%.

LOWER-COST ELECTRIC CAR BATTERY

Envia Systems is attracting the attention and investments of General Motors and other automobile manufacturers with its new batteries designed specifically for electric vehicles. The company's world record setting cell hit a capacity of 400 watt-hours per kilogram, which is the highest density ever reached by a lithium-ion rechargeable battery. And according to Envia, the batteries should cost about \$125 per kilowatt-hour, which is a marked improvement over the current cost of similar batteries. GM and other automakers are hoping this will help drive down electric vehicle costs so they can better compete with gas-powered alternatives.

FLOATING, WATER-COOLED SOLAR PANELS

Anyone with knowledge of or experience with solar panels knows that cooling is one of the biggest issues that

can affect energy efficiency. To help with this problem, an Italy-based company, Scienza Industria Tecnologia, designed the Floating Tracking Cooling Concentrator to use lakes and reservoirs as assistants in the cooling process. Using this approach, solar panel users could take advantage of natural water sources to cool panels at a cost of nearly 20% less than investing in ground-based cooling systems, according to the company. SIT also claims that this cooling technique could result in a 10% increase in energy output per year.

COMPANIES BAND TOGETHER TO IMPROVE REFURBISHED PHONES

A group of organizations, including ModusLink Global Solutions, Brightstar Corporation, and Sprint, created the Device Renewal Forum in an effort to improve the quality of refurbished mobile devices as well as set new quality standards for recycled phones. The Device Renewal Forum aims to compile a list of recommendations that points out what types of devices are best for refurbishing, how manufacturers should approach the overall rebuilding process, and come up with a specific quality standard that these devices should reach. Devices refurbished using the Forum's model will be marked as such, so consumers will know exactly what they are getting with their refurbished product.

REWARDS FOR RECYCLING

Preserve recently released its Gimme 5 iPhone app, which attempts to entice smartphone users to recycle by offering prizes. The app is part of an initiative to increase the recycling of No. 5 plastics throughout the country. Users that download the app will become a part of the project and earn Recyclebank points by dropping off recyclables at a nearby collection facility. Recyclebank points can then be exchanged for a variety of rewards at the organization's

AMBIENT ENERGY JOULE IS ZIGBEE-ENABLED

Ambient Devices recently announced a partnership with Ember to add ZigBee functionality to its line of Energy Joule solutions. The Energy Joule itself gives users access to a wealth of information related to how much energy is being used in a home. But the addition of ZigBee allows Energy Joule owners to go one step further and check the status of the energy grid their home is attached to. This helpful combination makes it that much easier for homeowners to manage electricity usage, become more environmentally friendly, and lower their energy costs in the process.



The Ambient Energy Joule helps you better manage your energy consumption, so you can conserve electricity and save money using customized alerts and settings.

website (www.recyclebank.com), including clothing, home and office supplies, and much more. The app also has Twitter and Facebook functionality, so you can share your recycling habits with friends.

IBM HELPS U.S. AIR FORCE GO GREEN

It seems that not even America's armed forces are immune from new environmental initiatives designed to lower carbon footprints and increase energy efficiency. In fact, the U.S.

Air Force is employing the services of IBM to improve its sustainability approach. Using a platform built on Tririga's energy and environmental monitoring software, IBM is helping the Air Force deploy a solution that will track energy usage and cost as well as compile other data that will help improve energy efficiency across the board. According to IBM and the Air Force, this new sustainability approach will unfold over a period of time and continue to improve in both its sophistication and effectiveness. ●

Spot Potential Trouble

How To Address Areas Of Concern
Related To Enterprise WLAN

Wireless networks offer enterprises all types of benefits tied to convenience and productivity.

They're also rife with potential problem spots that, if not addressed, could bite the enterprise hard. Some companies, for example, build out their WLAN (wireless local-area network) but then call it good, failing to consistently maintain and secure the network thereafter. Elsewhere, some enterprises underfund the WLAN configuration, approach their wireless infrastructure the same as their wired network, or fail to use enterprise-class equipment and manage-

ment systems. The following identifies potential WLAN-related trouble spots and how to address them.

AREAS OF CONCERN

As Eric Hanselman, 451 Research (www.451research.com) research director of networks, says a wireless network deployment of reasonable scale "has a lot of moving parts." Although enterprises tend to focus on signal coverage, there's more to delivering a good user experience than "just giving users more bars on their signal display," he

says. Equally important as the traffic capacity on the backend interconnections tying the system together is the placement and abilities of the WAPs (wireless access points).

"In larger deployments, it's necessary to both plan before installation, as well as monitor the operation over time," Hanselman says. "The users, devices, and applications utilizing the wireless network will change and ongoing management is required to ensure reasonable performance." Security-wise, he says managing user

Key Points

After configuring a WLAN, enterprises must consistently maintain and secure it.

Enterprises should ensure consistent wireless coverage throughout the organization.

Enterprises ensure policies and practices are implemented to address employee-owned devices accessing the WLAN.

Companies should use enterprise-class equipment specifically targeted for WLAN usage.

the pyramid's base, as do WLAN probes that monitor the radio spectrum for rogue, or unauthorized, WAPs and interference.

"Often, an organization may start with an ad-hoc wireless network, where access is limited to a conference room or an executive's office," Rasmussen says. "Then, as the organization starts implementing a wireless network for everyone, IT professionals might install different software or hardware in different locations. It's this lack of consistency that can cause problems." Consistency, he says, ensures a uniform experience across the network, including the same security policies and network accessibility vs. a fragmented network with different security policies at different locations.

POTENTIAL SECURITY SNAGS

Consistent wireless coverage across enterprise facilities is also important for security. "When wireless access isn't available in a certain area, employees can set up rogue WAPs to get wireless access—access that doesn't meet the organization's security standards," Rasmussen says. With consistent coverage, IT can monitor the radio spectrum for unauthorized wireless devices.

Employee-owned devices accessing the network pose another potential security problem. Beyond implementing policies to manage those devices, Rasmussen says, enterprises should consider software and hardware that enables secure access to the wireless network for employees. "For instance, IT professionals can set up their network policies so that an employee's device must meet certain security criteria to access the network."

Traditionally, says Curtis Reid, CloudPath Networks (www.cloudpath.net) director of sales and marketing, securing wireless networks in corporate environments was relatively simple because the company could assert a



Eric Hanselman

research director, networking, 451 Research

"The users, devices, and applications utilizing the wireless network will change and ongoing management is required to ensure reasonable performance."



Sven Rasmussen

networking solution architect, CDW

"When wireless access isn't available in a certain area, employees can set up rogue WAPs to get wireless access, access that doesn't meet the organization's security standards,"

level of control over users. In fact, he says, it's arguable that wireless is more secure than wired "simply because of the added authentication and data encryption options deployed as standard WLAN security measures in many corporate environments." Reid says this is changing, though, due to the complexity and diversity the BYOD movement is introducing. IT staff, he says, are facing a lack of strict control; having to adopt security policies and networks to support multiple OSes, various devices and device types, and cross-platform applications; and provide more complex services than simply Internet access.

AVOID COMMON MISTAKES

The biggest mistake enterprises can make is underfunding their WLAN, says Rasmussen. "Organizations need to do their research to determine a budget; they shouldn't just choose a number arbitrarily," he says. To determine an appropriate budget, start with what you've budgeted for the wired network, which might seem excessive but "is a good starting point to determine the cost behind maintaining and securing a wireless network," he says.

identities is a concern for any enterprise network, but wireless networks add another degree of difficulty. "User sign-on is becoming more complicated as mobile devices become simpler."

Another management-related problem in larger companies is not keeping the wireless network consistent throughout the organization. Here, says Sven Rasmussen, CDW (www.cdw.com) networking solution architect, it's helpful to imagine WLAN management as a pyramid, with the top portion representing the wireless management console the enterprise uses to manage network settings and security policies. The middle portion contains the WLAN controllers that manage the WAPs. Those WAPs, which enable users to access the WLAN, make up

In terms of infrastructure, enterprises commonly buy the wrong equipment and implement a wireless network they can't centrally manage, Rasmussen says. "Organizations that don't have central management spend a lot of time managing each WAP individually. Buying the right management equipment will ease a lot of common pain points," he says. Elsewhere, he explains, some enterprises configure the WLAN but then think the work is done, not recognizing the wireless network requires the same maintenance as a wired network.

Elsewhere, Chris DePuy, Dell'Oro Group (www.delloro.com) analyst of wireless LAN research, says keeping employees from accessing enterprise resources via self-owned devices is a mistake. Though it may reduce risks, he says, "it may severely decrease productivity." Also a mistake, says Hanselman, is failing to understand the risks involved with what users do when they're not on the enterprise's WLAN. "Typical users are connecting their devices to a host of networks that are outside the enterprise's control," he says.

SOLUTIONS TO THE PROBLEMS

Whether the WLAN spans one campus or multiple sites, says Reid, "the greatest foundation for a successful WLAN deployment is proper design." That design should be based on expected usage, "meaning applications; device and user types; coverage areas; planning for density; security measures; and overall, taking into account the role or significance (priority) that mobility will have on your organization," he says. For example, Reid explains, some enterprises design and plan a Wi-Fi network in accordance to a particular vendor's new feature sets when it should clearly define its needs and then look to vendors to determine which offering meets the needs best and at the best value.

Hanselman says MDM (mobile device management) systems can lessen user and administrator workloads by managing credentials and making

it easier to secure network access. Rasmussen says enterprises should seek management solutions that can provide user authentication and assist in maintaining security policies. Further, solutions should be specifically designed for wireless networks, he says. Although there are older solutions designed for wired networks that were augmented for wireless networks, current solutions specifically for wireless networks can authenticate users and track who joins the network and when, Rasmussen says.

If money isn't an issue, says DePuy, a security solution would encompass both wired and wireless networks using the same rules or at least pass through the same, new system. "This would involve removing and replacing all switches, WLAN APs, and controllers with new versions of the same from the same vendor," he says, which would "be expensive and disruptive." Alternatively, some vendors offer management systems that enable policy enforcement for third-party WAPs and Ethernet switches, he says, "though with history as a guidepost, this type of approach is likely to have significant shortcomings." Another often-used approach is maintaining "two security regimes, one for wired and one for wireless. Differences in configuration from one to the other prevent entries to the enterprise," he says.

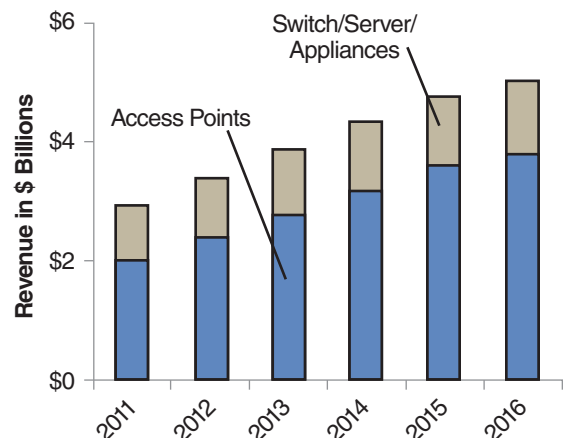
LOOKING AHEAD

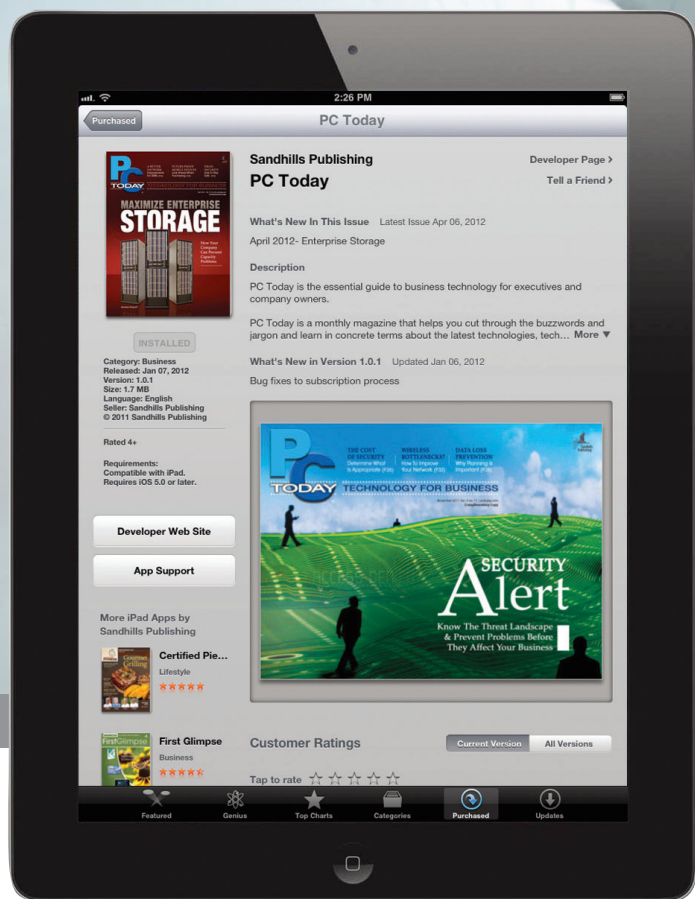
A fast-growing WLAN-related segment, says DePuy, is enterprises using cloud-based and virtualized controllers. Currently, these products are being targeted primarily at smaller businesses and K-12 educational environments, he says, but "revenue for pure-play vendors using this approach is growing an estimated two to three times faster than the enterprise WLAN market's revenue."

Of the vendors offering such solutions, many offer the ability to remotely manage WLAN devices and wired devices, including routers and switches, he says. DePuy expects most vendors now offering hardware-controller based systems will introduce cloud-based or virtualized controller systems by year's end. "A potential advantage of software-based or cloud-based controllers is the software updates may be wholly, or in part, maintained by the vendor," he says. "A disadvantage is that these are typically located in distant locations from APs, which if the connection were down, may present security or operational risk, as changing configurations on APs would not be possible during the outage." Elsewhere, some vendors are adding VPN concentrator abilities to WLAN controllers to enable users outside the enterprise's WLAN infrastructure to gain access to the enterprise boundaries, he says. ●

►► Enterprise WLAN Revenue

This graph from Dell'Oro Group depicts the expected revenue that WLAN-related equipment is expected to generate through 2016.





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Tips For Employee Web Security

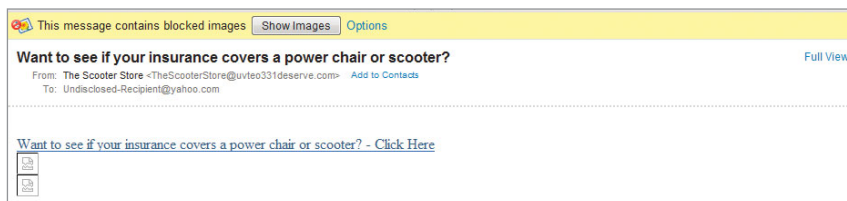
Common Sense Goes A Long Way

An in-house IT staff can only do so much to keep your company's network secure. Although employing anti-malware software on company computers and promoting best practices goes a long way, employees bear a great deal of responsibility when it comes down to using those best practices. Here are some tips to pass along.

1 Patch and update all programs, including security software and Web browsers. Even the best software needs updating to prevent potential cybercriminals from creating havoc on your employees' systems. IT staff maintains the network and makes

sure server updates take place, but employees need to help facilitate the process by installing updates on their systems when prompted.

2 Don't open strange attachments. Opening an attachment that contains



If you receive a strange or unsolicited email that makes you suspicious, do not click its attachments or embedded links.

malware is an easy way to infect your computer with malicious files. Any time you receive an email with an attachment, you should consider whether you know (and trust) the sender and then determine whether the email fits the sender's character. For example, if an email suggests that you open some mysterious link, it's probable the email is spam. Likewise, your grandmother isn't likely to send an email asking you to download some salacious photos of hot girls, so you can be assured that such a message is also spam.

3 Avoid clicking links in unsolicited emails. Malware-laden email attachments and malicious links within emails are frequent bedfellows in spam. Often, bad links are even more insidious than attachments because they can take you to a legitimate-looking website where you may be tricked into entering your credit card number or a username and password.

4 Use the tools available to you. If your security software alerts you to a potential virus or malicious website, don't dismiss it. Many Web browsers can display icons or other indicators in their address bars that help you determine whether a site is secure. If you're unsure of a site's veracity, look for the secure icon (often an image of a padlock) near the URL in the address bar or "https" in the URL. Some browsers will also alert you if you're about to visit a potentially dangerous website and will require your permission before displaying the page.

5 Don't use personal media on work computer. Although it's convenient to use the same USB flash drive for storing and transferring files between your home and work computers, it's best to keep any personal media devices separate. If you have a flash drive or other media that has been infected with malware, then connecting that device to your work computer is potentially a quick way to infect all the systems within the company. ●

Warning



Low Disk Space!

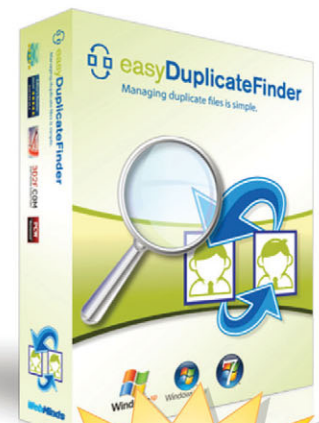
You are running out of disk space on Local Disk (C:). To free space on this drive by deleting old or unnecessary files, click here...

Free up Disk Space in a Quick and Easy Way

This is so typical – you think you have more than enough free disk space only to discover the opposite. You can't sync your devices or upload photos from your digital camera because there just isn't enough space. When this happens, most people start deleting files and end up deleting something important. But there is a better solution – run Easy Duplicate Finder™ to remove duplicate files.

All computers have duplicate files. Think of how many times you might have saved the same file in two different folders, uploaded your photos twice, or edited a document and saved multiple versions. Easy Duplicate Finder™ is the tool that makes managing duplicate files really easy. It will intelligently detect useless duplicates by matching them by name, size, date and even content. The program will then display the results and let you delete duplicates in just one click.

Easy Duplicate Finder™ supports all types of files, including photos, music files, videos, documents, and even Outlook emails. With Easy Duplicate Finder™ your hard drive will never get cluttered by duplicates and you will always manage your files in an effective way.



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the 1st Time!**

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THE Cost OF Mobility

Know The Pros & Cons Of Maintaining A Mobile Workforce



The main benefits of maintaining a mobile workforce are well known, and topping the list might be a reduction in fixed costs. If you turn 30% of your workforce loose to work in the field or from home, then that means 30% fewer desks, phones, reams of copier paper, doughnuts, and office real estate space. On the other hand, mobile workforces may force IT to open a whole new branch dedicated to mobile worker support. Sure, workers are spared the notoriously inefficient time sink of office politics and meetings, but are they simply at home spending more salary time on social media?

One of the challenges in having mobile workforces is honestly assessing their true benefits and expenses beyond the obvious. This is not as straightforward as some might think.

BENEFITS

If “improved morale” doesn’t come in right behind lower fixed costs at the top of the benefits list, it’s certainly close. And morale shouldn’t be underestimated. For many urban workers, the ability to dodge the stressful daily commute, save gas, and similar benefits might even be worth easing back on raises or other benefits. However, morale is not the only intangible that should be weighed.

“First, organizations with a mobile workforce are cooler,” says Mike Battista, a research analyst with Info-Tech Research Group (www.infotech.com). “They have a reputation as being progressive, and that is bound to attract employees who are ahead of the curve. Employees who are

Key Points

There are many advantages to maintaining a mobile workforce, but these tend to scale with company size. In general, larger enterprises will realize more benefits.

Mobile workforces don’t target one or two narrow business needs. They mark a broad change in business processes that need to be viewed holistically to avert inordinate costs.

It’s easy to spend in mobile workforce areas that don’t support a company’s true needs or future plans. Spend according to real rather than perceived value.

To spend most effectively, concentrate first on the data rather than the users or individual technologies. Enable and protect data, then build out additional mobile workforce support structures from there.

comfortable with the latest technology are not only more efficient when they use it to help do their jobs, but they can often find new ways of using the technology in a work setting.” He explains that mobile technology is more powerful and flexible than ever, and there are ways to use it that decision-makers are often not aware of until it falls in employees’ hands.

Rohit Mehra, director, enterprise communications infrastructure at IDC (www.idc.com) agrees that the expenses of building and maintaining a mobile infrastructure are more than offset by the benefits. “There are many examples of Fortune 500 companies even incentivizing employees to potentially work from home,” he says. However, because these savings scale in relation to the size of the company, medium-sized and larger enterprises will realize more benefits from their mobile workforces. Smaller organizations will still realize benefits, but their relative advantage will be less except in cases where the company’s structure or operating model demands mobility for most of the workforce.

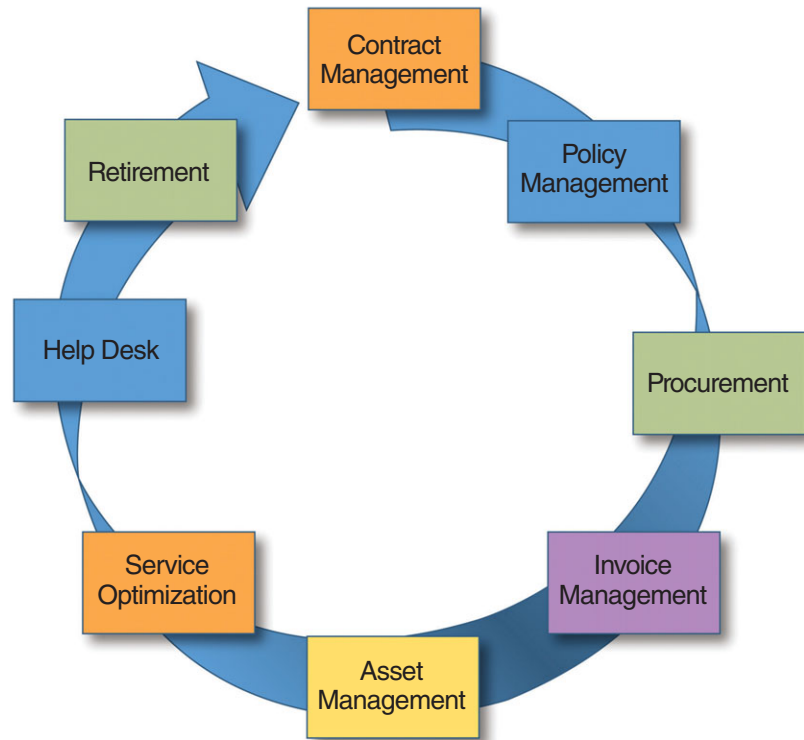
WHERE TO INVEST MORE

Implementing a mobile workforce is often a large, multifaceted undertaking with many easily identifiable investment points: client devices, networking infrastructure, support services, and so on. Naturally, how companies allocate funding for these areas will vary depending on the organization’s priorities and existing resources, but it’s also possible that companies underinvest in certain areas. For starters, it’s important to invest in management.

“Pay attention to task or project manager products,” suggests Rob Enderle, principal analyst at the Enderle Group (www.enderlegroup.com). “When you have folks in the office, you can generally get a sense of where they are and whether they are having issues. With a mobile

►► Gartner Mobile Expense Management

As this Gartner illustration shows, mobile expense management spans a range of functions, each of which carries its own costs. Managers risk ballooning expenses if any of these items is given insufficient attention. For instance, if retirement is brushed aside, the company risks seeing the data on that device turn up on eBay.



workforce (or, more accurately, a remote one), out of sight can be out of mind. Making sure you have an easy and consistent way to find folks that need help can do wonderful things with regard to keeping things intact.”

Info-Tech’s Battista emphasizes the importance of education and training. As with any complex work process, ongoing education will help improve ROI, but this is particularly pertinent with policy enforcement. Many organizations, regardless of whether they have formal or informal policies about how to safely use mobile technology, have only one person who knows the policies inside and out: whoever created the policies. The full potential of a mobile workforce won’t be realized until its members are working in a cohesive manner that is in line with the company’s standards

and practices. Is it acceptable to load games on a device used for work? What steps need to be taken to secure communications beyond the firewall? All of this requires education, and it’s doubly true for mobile workers given that their independence from the workplace may foster a sense of relaxing the rules.

Before jumping to throw money at perceived deficiencies in mobile workforce deployment, though, it’s important to try to see the largest picture possible. Understand what pieces will not only matter most in the company’s future, but also which elements can be adequately tackled by IT because no group can realistically handle everything.

“The problem that enterprises are having is that mobile technology has changed so quickly over the last 18

months that they don't know where to start," says Paul DeBeasi, research vice president of wireless and mobility at Gartner (www.gartner.com). "Pick an area: mobile device management, security controls, application development, wireless infrastructure. Just about every enterprise is missing in some aspect of those. It's because the rate of change is happening faster than the rate at which the enterprise can adapt to that change. They can't get their arms around all of these pieces."

How should executives determine where to place their focus? To begin, don't stare too hard at individual hardware technologies. They're too fleeting. Rather, IDC's Mehra recommends focusing on user identity and the task at hand. Who is the user, what rights should he have, and what data should that user have in hand or in flight? By starting with this in the center and then working outward, businesses are more likely to apply their mobile workforce budget into areas with the greatest long-term benefit.

POSSIBLE OVERINVESTMENTS

While attempting to get a grasp of all those mobile workforce pieces, it may be tempting for CIOs to take a shotgun approach to the problem and simply throw money at everything. This is unnecessarily costly. Similarly, companies may latch onto the trendy technology of the month and invest in it based on perceived value rather than well-defined, proven value.

One example might be mobile videoconferencing. Enderle points out that if technologies such as videoconferencing aren't actively promoted and taught throughout the mobile workforce, various points

of resistance (including having a feature mismatched with the real business needs), will result in funds being wasted.

Gartner's Paul DeBeasi believes it's still too early for the world of mobile workforces to have seen much overinvestment. He says enterprises have had "non-justified overexpectations that certain technologies will help them."

"Time and again," DeBeasi says, "I talk to enterprises that have the idea that if they could only buy a mobile device management tool, their problems would be solved. So most people are out evaluating MDM solutions. But the real problems are much deeper than that." He explains that people need to consider policy issues, security, applications, and the wireless network. "So rather than anyone

overinvesting," he says, "they have expectations that don't match reality."

Perhaps the top item on the list of unrealistic expectations is anticipating mobile applications will work like their desktop counterparts. Just because an app exists in the mobile space doesn't mean that it will perform in a familiar way. Functionality could be crippled, or at least additional user training may be required.

UNEXPECTED GOTCHAS

A December 2011 report from iPass (www3.ipass.com), "The Well-being of the Mobile Workforce," paints a grim picture of the "dark side" of mobile workforces. With the extra flexibility of mobility often comes an increase in total work time, with 47% working an extra five to 10 hours per



Rob Enderle

principal analyst,
The Enderle Group

"The chances of someone impersonating either the company or the worker to the company are high, dramatically increasing the phishing data/loss risk. Access, monitoring, and audit processes need to take this into account and put in place multi-factor programs that will better assure neither side can be phished through identity theft."



Rohit Mehra,

director, enterprise
communications
infrastructure, IDC

"I see corporations looking at it as needing less overall physical infrastructure by allowing more mobility, whether it's allowing folks to telecommute, work remotely, or whatever. You're about to reduce your physical infrastructure, your office space, your number of offices, and the associated expenses for electricity, food, cafeteria, air conditioning."



Paul DeBeasi

research vice president
of wireless and mobility,
Gartner

"Begin with data mobility. Begin with the information. Don't worry so much about the device, because in the final analysis, you may not own the device now or 18 months from now. But you will own the data, and you need to understand where data is located."



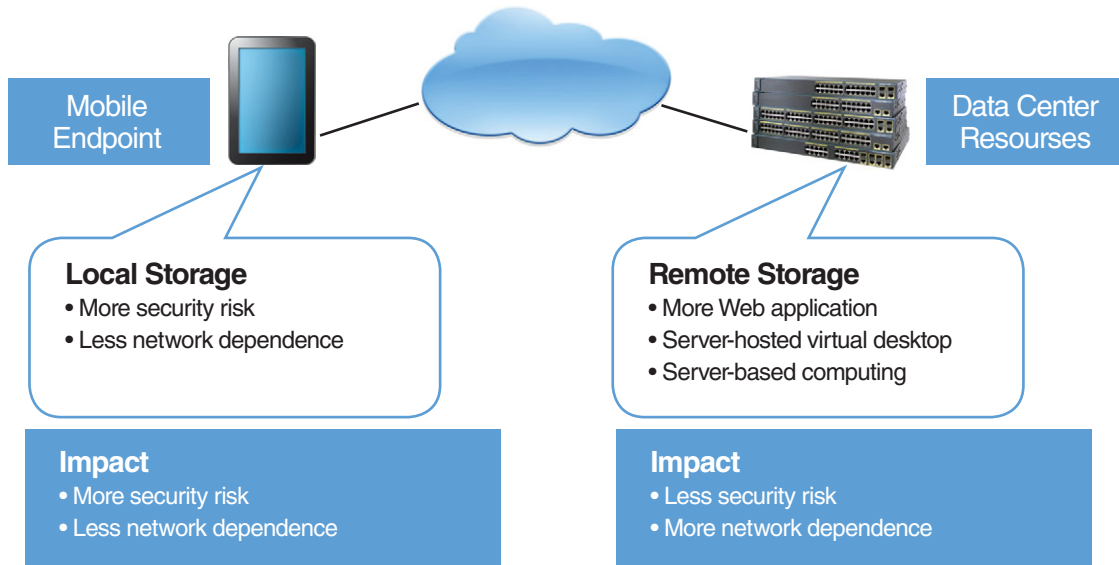
Mike Battista

research analyst,
Info-Tech Research
Group

"There's also something to be said for future-proofing. Whenever upgrading or investing in a new technology, it often doesn't cost much more to go with a vendor that has full mobile functionality."

►► Gartner Architecture & Security

One of the most important workforce cost decisions will be how data gets secured. No one argues that keeping data in the cloud is a more secure alternative to allowing data to reside on local end points, but the costs for that security may prove significantly higher.



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week and 26% working an extra 15 to 20 hours. Nearly half of those in the latter group reported being unable to balance work and home commitments. One-quarter of those working 20 more hours per week reported working in the middle of the night on a daily basis when unable to sleep.

Clearly, such overwork can have a deleterious impact on working morale, health, and effectiveness. Companies should take a long, honest look at their mobile workers' habits and make sure that their habits are in the best interests of both the worker and company over the long run.

In terms of devices supported, businesses are likely to find that the more personal devices they allow workers to use for work, the greater the headache created for IT. This includes both onboarding as well as ongoing tech support. Also consider additional security measures that need to be taken for multiple device types and platforms. For example, will investments in antivirus and

VPN solutions for iOS and Android devices help when employees want to use their new Windows 8 tablets next year?

Another pitfall may be changing price models within the services supporting the mobile workforce. Gartner's DeBeasi holds up the example of cellular carriers moving from flat rate pricing to a pay-per-usage model. DeBeasi's figures show how an employee watching one standard-definition video per weekend over Netflix on his company-paid \$10-per-gigabyte-of-coverage data plan can rack up \$80 in data charges, and that's before email, file transfers, and any other actual work use. Such fees will become increasingly common for companies that allow employees to mix work and personal use on their devices.

"Security is the top concern with enabling a mobile workforce, yet a lot of organizations aren't doing much about it," says Battista. "Implementing third-party mobile

device management solutions can help, making it easy for an IT department to limit what devices can do or remotely wipe them if something goes wrong. Training is also essential here. For example, one of the only areas in which mobile devices are actually less secure than traditional computers is in physical security—they're easier to lose. We don't yet have technology to automatically detect if a device is in a user's pocket or in a burglar's sack of stolen goods, so it's still up to the owners of the technology to manually practice good security."

MOBILE DEVICES ARE WORTH HAVING

Despite all of the costs, though, mobile workforces are worth the trouble. The independence, flexibility, and additional revenue they can provide are more than worth their costs if those workforces are implemented with careful, long-term planning. ●



PHOTO COURTESY OF PHILIPS

Near Field Communications

More Than Just A Mobile Payment System

So-called breakout technologies come and go, with only a relative handful ever having a significant impact. NFC (Near Field Communications) technology is still pretty new, but it has the potential to be the next big thing in our personal and business lives.

WHAT IS NFC TECHNOLOGY?

NFC is a wireless technology that allows two devices to exchange information. The current specification calls for the devices' antennas to be within about 3/4 of an inch of each other.

This requirement provides one of the key benefits of NFC: security. Throw in data encryption, and it's highly unlikely that Sam Spy can sniff the data in an NFC transaction. It's this tight security that leads many people to believe that NFC is the hot ticket item in contactless payment systems.

HOW NFC WORKS

Sony, Nokia, and Philips helped form the NFC Forum in 2004 in order to advance the standard, which is based on RFID (Radio Frequency Identification) technology. RFID uses

passive electronic tags (essentially, electronic barcodes) to store data. When used in close proximity, the RFID reader supplies power to the RFID tag via magnetic induction; the tag then broadcasts its data to a reader.

NFC operates in a similar manner. Working in close proximity, an active NFC device uses induction to power a passive NFC tag. But the technology also works between two active or powered NFC devices, opening up more possibilities than just scanning fancy barcodes.

The NFC specification spells out how NFC devices operate, sending and receiving data using short-range radio transmissions at 13.56MHz. It also defines the speed at which data is sent. NFC currently supports data rates of 106Kbps, 212Kbps and 424Kbps. (Not much faster than a modem from the early days of the Internet.) That's ideal, because NFC data is usually very short; you wouldn't use it to send a video to your smartphone, but it's a great way to exchange contact information with a client.

NFC works in three modes. Reader/writer mode lets your NFC-capable device work with passive tags. Peer-to-peer mode lets two active NFC devices exchange data such as contact information. Card emulation



Google Wallet (www.google.com/wallet) is one example of an NFC payment system. You can make a purchase at any store that accepts Google Wallet or MasterCard PayPass. Simply tap the payment terminal with your smartphone, enter your PIN, and the transaction is complete.

mode lets an NFC device act like a smartcard, such as those used in transportation and ticketing systems.

Passive NFC devices only need an induction loop to pick up the necessary power from an active NFC device, a transmitter chip, which usually also contains the data that you want to share, and an antenna. Active NFC devices add a power source, a transceiver (transmitter/receiver) chip, and an antenna. The part count is small, as are the sizes of the components, so NFC capabilities can be built into a number of devices.

NFC & SMARTPHONES

There are many NFC-enabled smartphones available. Many models are currently only available outside the U.S., but they appear to be on the rise in the states. Google's Android OS supports NFC technology, and Apple has obtained patents for NFC technology for its iPhones and iPads.

NFC USES

Although NFC is commonly associated with contactless payment systems, the technology has many other possibilities.

Contactless payment. Smartphones can be more than just a replacement for credit/debit cards. You can use a smartphone, or any device with a built-in computer, to keep track of your credit/debit card usage, including logging what you purchased, how much it cost, and where you bought it.

Stores can use NFC devices in place of loyalty cards and provide paperless coupons for customers. Thus, no more waiting in line behind a coupon clipper sorting through dozens of coupons.

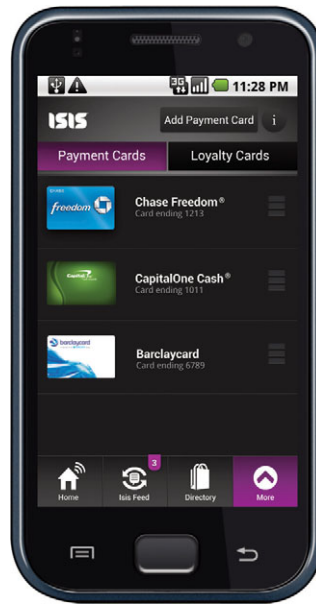
Medical. NFC-enabled medical devices can monitor your health and even dispense medication. For example, the SleepTrak from iMPak Health (www.impakhealth.com) uses an NFC device the size of a credit card to monitor your sleep habits. Attach the device to your arm at bedtime. In the morning, an NFC-equipped smartphone reads the card and sends the data to your doctor.

Other NFC medical devices in the works include diabetic monitoring systems that can communicate with insulin pumps and advise how much insulin to dispense after a blood sugar check.

Access control. Many businesses provide temporary access to their facilities. An NFC device, such as a smartphone, could act as the employee's keycard. Employers could implement certain criteria, such as time limits that provide access only during business hours, or an expiration date that provides users access only for a day, a week, or a month.

Tickets and transportation. Some NFC devices let you store ticket information and purchases for a variety of services, from theater and sporting events to airlines, toll roads, and parking spots. At some point, you'll be able to wave your NFC-enabled smartphone at a parking meter and be on your way.

A big NFC venture in this area is Isis (www.paywiththisis.com), a joint undertaking of AT&T Mobility, T-Mobile, and Verizon Wireless. Isis is a contactless payment system designed for use with various smartphones, and will be available sometime this summer. Isis



With the Isis system, you can preload a virtual debit card on your smartphone or use a virtual credit card to pay for your travel. Simply tap a payment terminal in the transit system with your smartphone, and you're on your way; no need to buy a ticket.

will launch in Austin and Salt Lake City on a trial basis, and later expand to other areas.

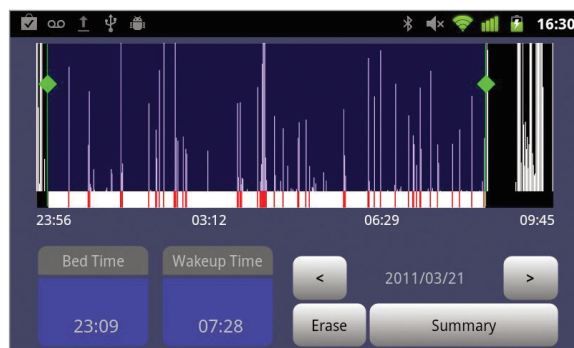
Advertising/marketing. Companies can place passive NFC tags in catalogs, marketing materials, even posters for upcoming movies. If you want to know more, you can scan the NFC tag, which will direct your smartphone's browser to the relevant website.

Inventory management. Combining RFID and NFC can lead to cost reductions in inventory control. Replacing costly RFID readers with simple NFC smartphones will allow more personnel to perform inventory, reducing the time it takes and the dreaded inventory fatigue.

THE WAVE OF THE FUTURE

NFC is a promising technology. While NFC applications aren't in the domain of consumers, it's consumer usage that will be necessary for NFC to reach critical mass. That's why 2012 may be the most important year for NFC, with Isis trials getting underway, and more and more smartphones incorporating NFC chips. It is possible that you may be able to use your next smartphone to buy your groceries, pay for your parking, and simplify your next medical checkup. ●

NFC offers a wide range of possibilities for health-related devices. The SleepTrak from iMPak Health can monitor the quality of your sleep and send the results to your doctor.



Tablet Updates

You use your tablet every day, so you don't want to be left out of the loop when developers roll out changes and updates. Each month we research the latest OS updates, firmware upgrades, and tablet releases so you don't have to.



Sony's Tablet P features two 5.5-inch touchscreen displays that can be used together in unique ways, such as using the bottom screen's virtual keyboard to type information into the above display. ←

→ Toshiba's thin and light Excite 10 LE comes with Android 3.2 (aka Honeycomb) built in, but can be upgraded to Android 4.0 (aka Ice Cream Sandwich) after purchase.

APPLE'S NEWEST IPAD

With much pomp and circumstance, as usual, Apple announced and subsequently released its third-generation iPad in March. And while the tablet is nearly identical to its predecessor, it does have a few new features that make it stand out. One is the Retina display, which uses 3.1 million pixels to create a crystal clear image. But perhaps the most important new features is 4G LTE support, which brings a new standard for network speed to Apple's popular tablet. Combined with its 5MP iSight camera and over 200,000 available apps, Apple's iPad is better than ever for both business and personal use.

WINDOWS 8 SLATED FOR OCTOBER RELEASE

On the heels of recent news that the Windows 8 Consumer Preview was downloaded 1 million times on the first day, Microsoft announced that it will

release the newest version of its operating system in October of this year. Microsoft is building Windows 8 for use with multiple devices, including desktops, laptops, tablets, smartphones, and more. And its new Metro style user interface is designed for easier menu navigation as well as improved touchscreen capabilities. Many companies have confirmed they are working on Windows 8 tablets, so it's only a matter of months until these new devices land on the market.

SONY'S PLAYSTATION-CERTIFIED TABLET

Those looking for a more compact and flexible tablet experience may find what they're looking for in Sony's new Tablet P. It doesn't take long to see why this Android tablet is unique because it comprises two 5.5-inch touchscreens that users can fold and close. The Sony Tablet P supports 4G and Wi-Fi, can accommodate up to

32GB of storage with a memory card, handles PlayStation games, and is available on AT&T's network starting at \$549.99.

TOSHIBA RELEASES THIN & LIGHT TABLET

If you're in the market for a more traditional tablet, then the Toshiba Excite 10 LE's 10.1-inch LED display may be more your style. This Android 3.2 (aka Honeycomb) device is upgradeable to Android 4.0 (aka Ice Cream Sandwich), supports Wi-Fi connectivity, has one Micro USB port and one HDMI port, and features many first-party Toshiba apps, such as App Place, Book Place, Media Player, File Manager, and more. Toshiba also claims that its new device is the thinnest (at 0.3 inches) and the lightest (at 1.18 pounds) tablet on the market. The Excite 10 LE is available with 16GB or 32GB of storage for \$529.99 and \$599.99, respectively. ●

Top Tablet Apps



There is a seemingly endless supply of apps available for today's popular tablet platforms. In these pages, we have selected some of the best tablet apps for business, productivity, and travel. You'll find a mix of apps that are new or have been recently updated and apps that have stood the test of time and received high ratings from users.

ADOBE PHOTOSHOP TOUCH

► Android | \$9.99 | 38MB

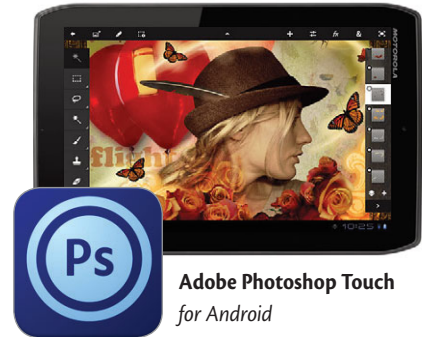
Until recently, users wanting a many-featured tablet version of Adobe Photoshop had to opt for Adobe Photoshop Express, which is a free, very slimmed-down app that is useful for extremely basic photo editing. Now there is a better choice: Adobe Photoshop Touch (Rel. Jan. 27, 2012) is a much more robust app that supports layers and filters, includes selection

tools, and works with touch gestures to help you create and refine images. A version of Adobe Photoshop Touch is also available for iPad.

ASTRO FILE MANAGER/BROWSER

► Android | Free | Size varies

If you're looking for a more personal way to organize documents, photos, and other files on your Android tablet, try Metago's ASTRO File Manager/



Adobe Photoshop Touch
for Android



Astro File Manager/Browser
for Android



Fuze Meeting HD
for Android



Go Launcher HD For iPad
for Android

Browser (Rel. Jan. 26, 2012). The app functions in much the same way that Windows Explorer and Finder work on PCs and Macs, respectively. In addition to basic file and folder management, the ASTRO app lets you preview images, manage applications, open email attachments, and download compressed files, among other features.

FUZE MEETING HD

► **Android** | **Free** | **7.7MB**

Fuze Meeting HD (Rel. Jan. 25, 2012) is a telepresence app from FuzeBox. The app is free to use with limited functionality, but for all features, including videoconferencing, you must sign up for a Fuze Meeting plan. Plans range from \$29 to \$69 per user per month, depending on the number of meetings, online storage, and other features required. The app can display PowerPoint presentations, PDFs, images, and other types of files. The most recent app update includes faster performance and annotation capabilities. A version of the app is also available for iPad.

GO LAUNCHER HD FOR IPAD

► **Android** | **Free** | **1.9MB**

GO Launcher EX recently released an improved version of GO Launcher HD For Pad (Rel. March 23, 2012). Designed for tablets running Android 3.0 (aka Honeycomb) and later, GO Launcher HD lets you personalize your tablet's interface and improve the way you work with and organize your apps. You can use the app to add wallpaper images, create docks from which to launch frequently used apps, and create app folders for better organization.

GOODREADER FOR IPAD

► **iOS** | **\$4.99** | **15.8MB**

One of the highest grossing apps in the iTunes store, Yuri Selukoff's GoodReader For iPad (Rel. March 22, 2012) continues its reign with a

recently updated version that adds support for the new iPad 3 and its Retina display. GoodReader may be typically recognized as a PDF reader, but the app also supports Microsoft Office and Apple iWork documents, spreadsheets, and presentations, as well as HTML, image, and audio files. The app lets you open extremely large text, PDF, and other files, including high-resolution images. The app includes PDF annotation, text search, zoom, file management, and many other features.

INFOR10 ROAD WARRIOR

► **iOS** | **Free** | **7.8MB**

In January, Infor launched Infor10 Motion, a platform for mobile services to support Infor customers. Among other apps, Infor has since released Infor10 Road Warrior (Rel. Feb. 24, 2012), which provides easy access to the information stored in a business's CRM and ERP systems. The app is designed for companies that want their sales teams to have all relevant information at their fingertips so they can quickly review and approve tasks. Infor10 RoadWarrior lets users work with sales information, receive real-time alerts, find customer locations based on location data, and more.

MYMEDIA - DOWNLOAD MANAGER

► **iOS** | **Free** | **1.9MB**

MyMedia - Download Manager (Rel. Jan. 19, 2012), from developer Alexander Sludnikov, is designed for a variety of iOS devices, including the iPad. The app lets you download a variety of file types—including documents, images, videos, audio files, and compressed files—directly to your iOS device from an Internet location. You can then open and manage the files with folders as you would with a file manager. You can also use the app to email files to others and open files that have been



compressed in ZIP or RAR formats. The app includes a passcode lock option for security and AirPlay support for video and audio playback.

POCKETCLOUD REMOTE RDP/VNC

► **Android** | **Free** | **4.4MB**

Forget a file that's stored on your office computer? That isn't a problem if you have Wyse Technology's PocketCloud Remote RDP/VNC (Rel. Feb. 7, 2012), a remote desktop app that provides access via RDP (Remote Desktop Protocol), VNC (Virtual Network Computing), or Auto Discovery using a Google account. The app lets you retrieve and work on documents, exchange emails through the corporate server, multitask, use custom keyboard shortcuts, and generally do whatever you would normally do on your Windows or Mac computer if you were in the office.

POYNT

► **BlackBerry** | **Free** | **4.45MB**

Poynt's eponymous app for the BlackBerry PlayBook (Rel. Nov. 21, 2011) has become an extremely popular LBS (location-based service) app for business travelers and consumers alike. Fire up Poynt wherever you are, and the app will use your current location as a basis for serving up relevant information about nearby businesses, restaurants, services, and events. The app integrates with BlackBerry applications for additional functionality. For example, you can search for a business and then find a direct route there using BlackBerry Maps, or schedule an event and quickly add it to your BlackBerry Calendar.

SPEEDY CHECKLIST

► **BlackBerry** | **99 cents** | **533KB**

Tristan Cater's Speedy Checklist (Rel. March 14, 2012) for the

BlackBerry PlayBook does just what its name implies: It lets you quickly create simple checklists to help stay organized. The app comes with some checklist categories ready to go, and you can create your own. The app permits deleting, editing, and emailing entire lists, and there are backup and restore features included for good measure.

SUPER KEYBOARD PRO

► **Android** | **\$2.99** | **2.5MB**

Recently updated with numerous bug fixes and minor improvements, Beautiful Apps' Super Keyboard Pro (Rel. Jan. 26, 2012) is a multitouch keyboard app for Android tablets and smartphones. It includes support for 21 languages, including English and Chinese. The app itself is fairly straightforward in its usefulness, providing an alternative soft keyboard with multiple layout options, but it also comes with font and theme choices for aesthetic personalization.

TEAMVIEWER FOR REMOTE CONTROL

► **Android** | **Free** | **1.7MB**

If you're looking for a remote desktop app for an Android tablet and an individual Windows, Mac, or Linux computer, TeamViewer's TeamViewer For Remote Control (Rel. March 13, 2012) is highly rated and has recently been updated. Simply install the app on your Android device, install the TeamViewer software on your computer, establish and enter a TeamViewer ID and password, and you're ready to access your computer from anywhere your Android tablet has an Internet connection. The app uses 256-bit AES session encoding and 1,024-bit RSA encryption for security. ●



Poynt
for BlackBerry



Speedy Checklist
for BlackBerry



Super Keyboard Pro
for Android



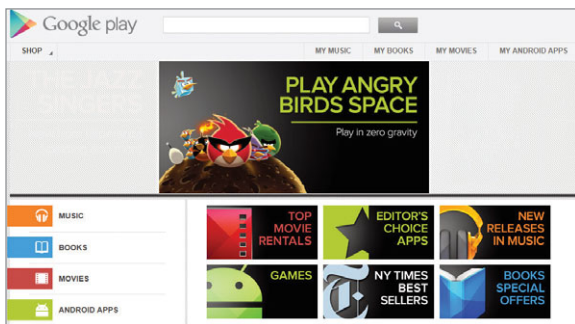
TeamViewer For Remote Control
for Android

Smartphone Updates

You probably rely on your smartphone for many things, and with updates, you can improve both the efficiency and functionality of your mobile phone. We'll detail newly released updates to help you maximize the use of your smartphone while you are on the road as well as keep you up-to-date on smartphone-related news.

AT&T THROTTLES UNLIMITED PLANS

The advent of tiered mobile plans removed the possibility of truly unlimited data from new customers. But even existing customers with grandfathered unlimited plans will have



Google Play is a vast improvement over the Android Market. The new user interface makes it much easier to navigate through the menus and find the content you're looking for.

a ceiling. AT&T recently announced that users with 3G smartphones will receive reduced network speeds once they top 3GB per month, and those with 4G LTE-capable phones will be throttled at 5GB. Once a new billing cycle begins, network speeds will return to normal. According to the company, only 5% of smartphone users actually reach 3GB in a month. Those users affected by the new ceiling may be able to curb their usage by connecting via Wi-Fi whenever possible, which won't count toward the data usage total.

GOOGLE UNVEILS GOOGLE PLAY

Google recently decided that its Android Market was in dire need of a facelift, so the company redesigned and relaunched its application storefront as Google Play. Key differences include a more streamlined menu setup, improved search functionality, and cloud support for your computer and multiple Android devices. Google designed Play to be intuitive, making it easier for Android customers to access more than 450,000 apps and games as well as music, movies, and books.

Google Play is available now for most devices. Users that didn't receive the update can visit Google's website for more information.

NOKIA ADDS TETHERING TO LUMIA PHONES

Nokia is building tethering capabilities into its new Lumia 900 and 610 smartphones as well as unlocking the feature with a firmware update for the Lumia 800 and 710. Specs for the Lumia 900 indicate that it will support up to five Wi-Fi devices with one

connection, but it's unclear whether or not owners of the other three models can expect similar capabilities. There isn't a timeframe for when the update will be pushed out, but users of Nokia's Windows Phone 7 smartphones should be getting a solid release date soon.

VERIZON 4G LTE EXPANSION

In its effort to bring 4G speeds to its entire network, Verizon recently announced further LTE (Long Term Evolution) expansion into Columbus, Miss. According to the company, it spends nearly \$6 billion every year expanding into new markets and spent \$7.5 million to cover Mississippi alone in 2011. Verizon has been busy with LTE network endeavors for more than two years and plans to reach its entire 3G user base with 4G LTE coverage by the end of 2013. ●



The Lumia 900, along with three of its brothers, will support Wi-Fi tethering capabilities. And the 900 can handle up to five devices at once.



Top Smartphone Apps

Choosing an app that fits your needs can be an overwhelming task as the number of available apps increases daily. We scoured the app stores and selected some of the best applications for business, finance, productivity, and travel. In the pages that follow, we highlight a mix of apps that are new or recently updated and apps that have stood the test of time and received high ratings from users.



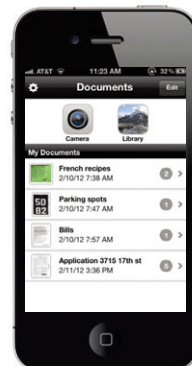
AirCover
for iOS



Contact Caddy
for BlackBerry



Dynamic Cloud Server
for iOS



Genius Scan-PDF Scanner
for iOS

AIRCOVER

► iOS | Free | 6.7MB

BlueSprig's AirCover (Rel. Feb. 21, 2012) provides security on many levels. The Cloud Backup feature lets you back up your phone's data and restore it to a new device should your iPhone become lost or stolen. If your phone should disappear, you can use the Device Found tool to track the device from a computer. AirCover also has a Family Safety feature that, along with GPS tracking, lets you locate and confirm the safety of family members or issue alerts in the event of an emergency.

CONTACT CADDY

► BlackBerry | \$2.25 | 1.5MB

You have contact information in your phone for clients, co-workers, doctors, and your kids' friends. Eventually, the time comes to get handle on all that data. Contact Caddy (Rel. March 7, 2012) from Dawnsun Technologies, is just the tool to help you manage your contacts. You can import your Phone/Address book into the app and arrange contacts into specific groups without rearranging your iPhone's native contacts list. Android and iOS versions of Contact Caddy are also available.

DYNAMIC CLOUD SERVER

► iOS | Free | 0.6MB

If you need to manage your cloud server, consider 1&1 Internet's Dynamic Cloud Server app (Rel. March 23, 2012). The app makes it possible for you to configure your server's performance features even if you must be away from the office. Dynamic Cloud Server gives you access to a virtual server environment with full root access. The configuration menu lets you adjust the number of CPU cores, RAM, and hard-disk capacity.

GENIUS SCAN-PDF SCANNER

► iOS | Free | 8MB

Turn your iPhone into a pocket scanner with Genius Scan-PDF Scanner (Rel. Feb. 2, 2012) from The

Grizzly Labs. You can scan pictures, crop and straighten a page using auto detection and perspective correction, or enhance documents. The app also lets you create PDFs of pages or copy documents to your personal computer via Wi-Fi. For \$2.99, you can upgrade to Genius Scan+ and access additional storage options.

GUIDEBOOK

► iOS | Free | 3.5MB

Guidebook (Rel. March 12, 2012), from the company of the same name, gives you access to detailed information about numerous events. You can download guide packages for popular trade shows, conferences, and conventions that contain interactive indoor maps of venues, event schedules, exhibitor listings, and more. You can also download guides to your iPhone for offline browsing.

KWRITE-TEXT EDITOR

► iOS | \$0.99 | 4.9MB

KWrite-Text Editor (Rel. Mar. 29, 2012), by knowtilus, gives access to a writing environment that is simple and free of distractions. You can write and edit documents in KWrite and then preview your work using the embedded Web View feature. When you want to show off the final version of your blog, ebook, article, or whatever you've penned, you can print the document using AirPrint or share it via email, Evernote, Dropbox, Tumblr, Twitter, or iTunes File Sharing.

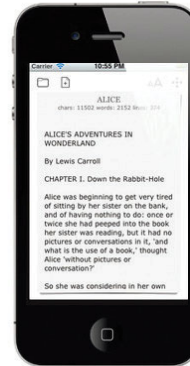
NEOREADER

► Android | Free | Size varies

NeoMedia's NeoReader (Rel. March 19, 2012) turns your smartphone into a code scanner. Launch the app on your phone, capture an image of any 2D barcode (such as Aztec, Data Matrix, or QR codes) or 1D product barcodes (limited use on some phone models) with your phone's camera, and view the code's Web content on your phone's browser. Although the app is free, some mobile carriers may



Guidebook
for iOS



KWrite-Text Editor
for iOS



NeoReader
for Android



OfficeSuite Viewer 5
for Android



Package Tracker Pro
for Android

MOBILE OFFICE BUSINESS ON THE ROAD

charge standard data rates for accessing the Web.

OFFICESUITE VIEWER 5

► **Android** | **Free** | **Size varies**

Office Suite 5 (Rel. Jan. 31, 2012), from Mobile Systems, lets you open Excel, PowerPoint, PDF, and Word documents. The app sports new features including intuitive toolbars in the File Browser, a redesigned UI, support for two-pane UI on Android 3.0 (aka Honeycomb) devices, and the ability to save text files directly in Google Docs. You can also view email attachments or share documents via email or a Bluetooth connection.

PACKAGE TRACKER PRO

► **Android** | **\$1.99** | **192KB**

MinsTech Package Tracker Pro (Rel. April 1, 2012) is a handy tool that lets you track packages from different shipping carriers. The app lets you customize your shipping carrier list; add, edit, or delete tracking numbers; sync your list on your computer and mobile phone; and email tracking information. You can also customize the app to check shipping updates automatically and alert you when there is any change in the package's status.

PHOTO STUDIO

► **BlackBerry** | **Free** | **3.8MB**

Photo Studio (Rel. March 12, 2012), by KVADGroup, provides powerful image processing tools that lets you edit and share photos while on the go. You can adjust an image's color, brightness, and contrast; apply unique effects to photos; resize, crop, or rotate a picture; apply frames; and much more. When you are finished making your changes, you can save the image and share with others using BlackBerry Messenger, Facebook, or Twitter.

REMOTE WEB DESKTOP FULL

► **Android** | **\$4.99** | **2.5MB**

You can control your Android smartphone via your computer's Web browser with SmartDog Studio HK's Remote Web Desktop Full app (Rel.

April 5, 2012). You can manage pictures, music, and files from your computer and transfer them to and from your phone and computer. With Remote Web Desktop Full, you can also make remote calls via your computer. The app supports Wi-Fi, cellular, and USB connections.

TOUCHDOWN FOR SMARTPHONES

► **Android** | **Free** | **5.1MB**

NitroDesk's TouchDown For Smartphones (Rel. March 23, 2012), gives you the tools to sync your emails, contacts, calendars, and tasks on any Android 2.0 or newer device. The app lets you import contact numbers from incoming SMS and supports forms, S/MIME, various MDM solutions, and Office 365. A free 30-day trial version is available to try before purchasing the license key, which gives you full access to the app's full range of features.

TRUSTX

► **BlackBerry** | **Free** | **1MB**

Protect your sensitive email messages with TrustX (Rel. Feb. 16, 2012). This app requires recipients to verify themselves before they can open and read your messages or view attachments on their mobile devices. You can set the level of security for a particular message, which asks the recipient to respond by entering a PIN, selecting Accept, taking a picture of themselves, or speaking a phrase to gain access to your message.

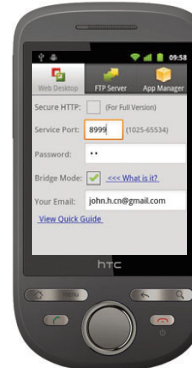
WORLD CLOCK 4 IN 1-THE WORLD TIME

► **BlackBerry** | **\$1.99** | **507KB**

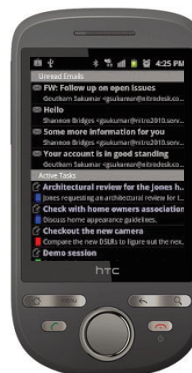
AppsForBB.com's World Clock 4 in 1-The World Time (Rel. Feb. 28, 2012) provides a variety of features you can use to keep track of the different time zones. The app supports all global time zones and, depending on your phone model and display size, you can view the time and date on as many as six clocks at once. You can also customize locations to match your travel destinations or a client's home office. ●



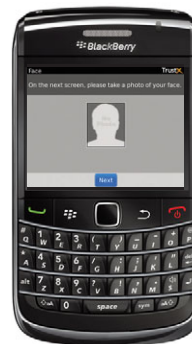
Photo Studio
for BlackBerry



Remote Web Desktop Full
for Android



TouchDown For Smartphones
for Android



TrustX
for BlackBerry



World Clock 4 In 1-The World Time
for BlackBerry

MOBILE OFFICE
BUSINESS ON THE ROAD

A woman with long dark hair, wearing a white button-down shirt and a black skirt, stands in a modern office with glass walls. She is smiling and talking on a black smartphone held to her ear. Her arms are crossed. The office interior is visible through the glass, showing desks and office chairs. The floor is made of dark wood.

tip

SMARTPHONE

ANDROID

► Speed Up Your Typing With Auto-Complete

The Android's Auto-Complete function can make short work of text messages and emails by automatically suggesting commonly used words as you type. To confirm that the suggested word is indeed the word you were typing, just select it or tap it with your finger. You can also manually edit the User Dictionary to make it even more useful. To add your own text snippets, enter the Applications menu; tap Settings, Locale & Text and Android Keyboard; and then tap to check the Auto-Complete checkbox. With the Auto-Complete function enabled, you can start building your User Dictionary. Back in the Locale & Text menu, scroll to and tap User Dictionary, press the Menu key, select Add, and then type something you want Auto-Complete to suggest. We recommend creating User Dictionary entries for your first name, last name, first and last name together, and "@gmail.com," or any other frequently used domains, and then save it by tapping OK. Now, the next time you attempt to type any of the words from your User Dictionary, the full word or phrase

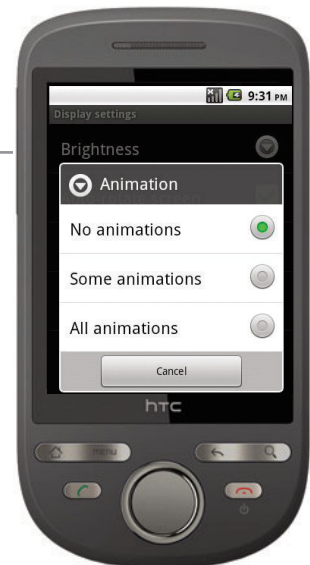
will appear among the other Auto-Complete options.

► Return Unwanted Apps

The Android Market lets you return apps you purchased for a complete refund. For those of us who've gotten used to the generous 24-hour grace period, however, you may be in for a surprise; the Android Market has recently revised its return policy and you now have just 15 minutes to return unwanted apps for a full refund. If you do purchase an app and decide quickly that you don't want it, you can return it for a refund by accessing the Android Market, pressing the Menu button, selecting Downloads, and then selecting the app for which you'd like to get a refund. If you're still within the 15-minute grace period, then you will see an Uninstall & Refund button. Simply tap it to proceed. If the grace period has expired, your only option will be to uninstall the application. If you still want a refund, the Android Market Help site recommends you contact the app publisher directly. Good luck with that.

► Turn Off Animations

Sure, the animated menus are part of what makes smartphones so eye-catching, but if you prefer to access apps and navigate menus more quickly, you can disable animations and significantly improve performance (and slightly improve the battery life). To disable animations on your Android-based device, press the Menu button, select Settings, Display, Animation, and then tap No Animations (or, if you want a performance boost but you're still fond of the fancy visuals, choose Some Animations). Press the Back button to return to the Home Screen.



You can give your Android phone a nice little speed boost by disabling animations.

S
REVISIT
THE BASICS
FOR BETTER
PRODUCTIVITY

BLACKBERRY

► Universal Search

When you've begun to rely on your BlackBerry for work, play, and everything in between, it's common to lose track of emails, contacts, and apps. Thankfully, you can access this content on your device quickly and easily by performing a universal search. Start by making sure you're looking at the Home Screen and then just start typing. Matching results will appear as you type. You can also press the Menu key and access the Search app to take more control over the search process. Just check the box beside the location you want to search, and then type in the Text or Name fields.

► Spell Check

Just because you're using a cell phone to type your emails doesn't mean people will forgive your spelling errors. And if you're using a BlackBerry to type your emails, you really have no excuse because a spell check feature is available. To spell-check a message, calendar entry, task, or memo, just type the message, press the Menu key, and select Check Spelling. The spell checker highlights words not in the dictionary and lets you scroll to and select the appropriate spelling.

IOS

► Update iTunes

Your iPhone is only as good as its operating system. To make sure you're running the latest version of the iPhone OS, you need to make sure you're running the current version of iTunes on your PC or Mac. Fortunately, Apple automatically checks for version updates when you start the software, but if you want to check manually, click Help at the top of the iTunes window and select Check For Updates. The software will display a pop-up either informing you that you currently have the latest version or that a new version is available. If a new version is available,

► Speed Tip: Ditch & Avoid Big Apps

If you're like us, you probably have more apps on your device than you use regularly, but if a seldom-used app is particularly large, it could affect your device's overall performance. We suggest dumping these apps and possibly looking for similar ones with smaller footprints; the BlackBerry App World has plenty of choices these days.

To determine if your apps collection is getting too large, press the Menu key, select Options, and then select Memory. Under Applications Memory, you'll see the amount of free memory available. BlackBerries often ship with 768MB or less memory (depending on the model), so you should consider culling your app library if your available memory is 20% or less than the total applications memory the phone supports from the factory.

To determine the size of any of your apps, press the Menu key, select Options, scroll to and click Applications, and then select the app you want to inspect. The size of the app will be displayed; anything 4MB or larger is considered rather large. If any of the apps you rarely use fall into this category, get rid of them. To delete one of these memory hogs, press the Menu key, scroll to and select Applications, highlight the app you want to delete, press the Menu key again, and then select Delete.

Remember, the BlackBerry App World displays the size of each app on the main details screen, which lets you get picky about the apps you install if you're running low on memory.



Be mindful of your BlackBerry's available memory.

click the Download iTunes button and follow the on-screen prompts to complete the operation.

► Install & Update iPhone Apps

One of the iPhone's most attractive features is its ability to become even more functional and fun with Apps. First, make sure you have the latest version of iTunes installed. Launch it, click iTunes Store on the left-hand menu, click App Store at the top of the iTunes Store interface, and then browse the massive catalog of utilities and games available. When you find one you want to learn more about, click the icon or the name of the app to see the details page. There you'll see screen shots,

pricing, product highlights, and user reviews to help you make your decision. At this point, make sure your iPhone is connected to your PC or Mac using the sync cable. When you decide to download and install the App, just click the price button (labeled Free if the app costs nothing) and input your Apple or AOL account username and password (or create one if this is your first time purchasing an app). Keep in mind that you need an Apple account even if the utility or game you want to install is free. Click the Get/Buy App button and sync to install it onto your iPhone.

To update Apps installed on your iPhone, simply connect your iPhone

to your PC or Mac using the sync cable, click the Applications menu on the left side of the iTunes interface, and then look at the bottom-right corner of iTunes to see how many Apps have updates that need to be installed. To install them, just click the Update Available link and then click the Get Update button for each App you want to install. After the updates have finished downloading, sync iTunes with your iPhone.

► iPhone Folders

If you're running iOS 4 or later on your iPhone, you now have the ability to create folders

► iPhone Folders

Folders on the iPhone let you group similar apps.

to group similar apps, which is a great way to cram more apps onto the Home screen. To create a folder, simply touch and hold your finger on an app icon until it begins to jiggle, and then drag it over a similar app you want to put in the same folder. Now, the two apps will appear on the home screen as two smaller icons in a box. To access one of the apps, just tap the folder, and then tap the icon on the menu that drops down. Simply tap and hold another app and drag it to the folder to add it. Repeat this to add as many as 12 apps to a single folder. Your iPhone supports up to 180 folders.

If you use folders to group similar apps, the iPhone will automatically assign a name for the folder, for instance, a folder that contains Twitter, Facebook, and LinkedIn apps will be called Social. If you don't group similar apps or just want to rename the folder as you see fit, tap and hold an app icon on the Home screen until the icons jiggle, tap the folder you

want to rename, tap the folder name, type a new name using the onscreen keyboard, and then press the Home button to save the new name.

WEBOS

► Use Universal Search To Find Apps

There are tons of apps available for webOS-based devices. If you happen to install a good number of them,



you might have trouble finding them when you want to use them. To speed the process of finding apps, try using universal search. If you know the title of the app you're looking to launch, just start typing it, and universal search screen will appear with matching titled apps listed at the bottom. As soon as you see the app you want, tap the icon to launch it.

► Uninstall Apps

By now you've probably become an expert at installing apps on your webOS device, but getting rid of them may be a bit less intuitive. To uninstall apps, start by pressing and holding the orange (or white) button, then tap the application icon that corresponds to the app you want to toss. Next, tap Delete to complete the removal process. Make sure you want to get rid of the app when you tap Delete, because after you tap Delete the app will be removed from your phone without so much as a confirmation screen.

WINDOWS PHONE 7

► Windows Phone 7 Voice Controls

Windows Phone 7 has some feature-rich speech recognition capabilities and, when paired with the Tellme service, you can search for just about anything on your phone. To initiate a voice command, press and hold the Windows key. When you see the "listening" indicator, simply speak a command, such as "open calendar," "find pizza," or "PCToday.com." You can even use this feature to bring up contacts' names, making it easier than ever to compose emails and MMS messages. To fine tune the voice recognition capabilities, you can access the Settings menu and tap Speech; here you'll have access to Play Audio Confirmations, Use Speech When Phone Is Locked, and Enable Speech Recognition Over The Network.

► Remove Start Screen Apps

Customizing the Start screen of your Windows Phone 7 device can be fun, but if you've gotten carried away and want to banish one or two items from Start without deleting the app, you can. Simply scroll to the Start screen item you want to drop, press and hold it, and then tap the unpin icon.

► Set Password & Time-To-Lock

If you don't want others accessing your Windows Phone 7 device, enable a rather short locking period and turn on the password capability. When someone tries to access the locked phone, they'll have to input the password to get in. From Start, access Settings, Lock & Wallpaper, slide the Password switch to the On position, and then input a four-digit password you are likely to remember. Now you can choose the lock period, such as 30 seconds, 1 minute, 3 minutes, or 5 minutes. With the password set, you can't select the Never option, so disable the password to set your phone to never lock. ●

DIGITAL *Diversions*



FOUR CORNER STONE PUTS MILITARY SPIN ON IPHONE CASE

► Whether “the ultimate iPhone case” really has been reborn with the Gizmon iCA Military Edition (\$70) as Four Corner Store (www.fourcornerstore.com) asserts is open to debate. What is a certainty with this wrap is that it is definitely unique. It’s also a fitting tribute to military photographers from a bygone era. Specifically, the limited edition Gizmon iCA Military Edition takes iPhone 4 users back to the days when wartime, military photographers armed themselves with Leica rangefinder-styled cameras to snap shots. Decked in all black and created from 23 polycarbonate pieces, this Gizmon iCA form-fits around an iPhone, essentially bestowing the device a form factor that’s identical looking to a handheld camera, complete with viewfinder, holes for a neck strap, and functional shutter button. Further, Four Corner Store has attachable wide, macro, and fisheye lenses available, while a detachable tripod mount makes long-exposure shots possible.

LYTRO SEES THE LIGHT

► Yes, the Lytro (www.lytro.com) is indeed a point-and-shoot digital camera, but it’s anything but conventional. In fact, it’s revolutionary. Rather than capture pixels, for example, the camera’s “light field” sensor captures light rays (11 million) to produce “living pictures.” The result is that rather than capturing one plane of light, the Lytro captures “the color, intensity, and direction of all light.” Thus, shooters and viewers can repeatedly refocus a photo after it’s shot whenever they desire, an amazing capability you can witness firsthand at Lytro’s online Gallery. The rectangle-shaped Lytro offers 8X optical zoom, a constant f/2 aperture, and 1.46-inch touchscreen display, while its “light field” nature means there’s no need for an auto-focus motor, flash, and other typical camera settings. Video captures and wireless transfers are missing for now. Further, you must upload shots (Mac OS-only support currently; Windows support coming later this year) and share them from a free Lytro online account. Red Hot (\$499; 16GB; 750 shots), Graphite (\$399; 8GB; 350 shots), and Electric Blue (\$399; 8GB; 350 shots) models are available.





IHOME GETS COZY WITH AIRPLAY

► If easily configuring a wireless, whole-home or office audio system is in your future, iHome (www.ihome.com) believes it has the solution with its new iW2 Wireless Speaker System with AirPlay (\$199.99). The speaker takes advantage of its built-in AirPlay support, your home or office Wi-Fi network, and the free iHome Connect app to make it possible to wirelessly stream your iTunes library from a computer or your iPod touch, iPhone, or iPad wherever the Wi-Fi network is within reach. Place multiple iW2 speakers in multiple rooms and you have your whole-house/office solution. Further, the iW2 (5.8 x 10.5 x 3 inches [HxWxD]) includes a USB port to connect and charge Apple devices and an auxiliary jack to connect other devices. SRS WOW HD technology, meanwhile, enhances audio output through the two Reson8 speaker chambers. An IR remote control is also included.

SONY PUTS THE SMART IN WRISTWATCH

► Sony's Android-powered SmartWatch (\$149; www.sonymobile.com) isn't exactly on par with the hardware that Dick Tracy strapped around his wrist, but when paired with a compatible smartphone (Sony's own Xperia models and scores of other manufacturer's hand-helds included) via Bluetooth, this gadget manages to offer some cool real-world functionality all accessible from its multitouch OLED display. These would include displaying incoming and missed calls, text messages, calendar items, email, and Facebook and Twitter entries. Also supported are music player control; rejecting, taking, and muting calls; and sending predefined texts. Rechargeable via USB cable, the watch (0.3 inches thick; 0.92 ounces with included watchband) can remain active a full day under heavy usage and a week under low usage, Sony states. The SmartWatch comes with a watchband adapter, so you can wear it with nearly any band, or remove the band and clip it to a bag strap.



THE RESOLUTION WILL BE TELEvised

► By now you know about Apple's new iPad 3 (starts at \$499; www.apple.com), of which 3 million had already been sold by mid-March. You've also heard about the tablet's strapping new Retina display packing a whopping 3.1 million pixels. That's four times the pixels as the iPad 2's display and 1 million more than an HDTV's (2,048 x 1,536 for Retina vs. 1,920 x 1,080 for an HDTV), Apple states. Sticking with the visual theme, the iPad 3's built-in iSight camera offers a robust 5MP resolution, while full 1080p video recording is also on tap. Of course, all that crystal clear, colorful Retina beauty wouldn't be nearly as enticing without some apps to take full advantage of it? Fortunately, there have already been numerous app upgrades to do just that, including to Evernote, Netflix, Twitter, and Amazon.com's Kindle. Although Netflix only includes high-resolution icons and images for now, Netflix states HD video will "follow later." Elsewhere, the recently released version 1.1 of Apple's own iTunes Movie Trailers has also been tweaked for the "the spectacular Retina display."



High-End Tablet Cases

Protection & So Much More

Although all tablet cases serve a definite function, namely protecting your device against wear and tear, not all tablet cases are alike.

Some, for example, are compatible with only specific tablets models. Others are able to morph into foldable stands that prop up the tablet for convenient typing or movie watching. Some cases are constructed specifically to offer durability or lightweight mobility while yet others are created to make a fashion statement. No matter your tastes or needs, though, there's likely a case that's a fit for you. The following are examples of what's available.



STAND, STORE & STREAMLINE

► This form-fitting, portfolio-styled case sports a midnight-black exterior that's durable enough to ward off scuffs and scratches but ultrathin and lightweight (9.1 ounces) enough to easily fit inside a travel bag. Unfolded, the Slim Folio doubles as a convenient stand complete with multiple viewing angles, including a low angle that's ideal for typing. Further, the interior features a soft lining, while the exterior includes a cutout that enables using your tablet's camera without removing the case.

Belkin Slim Folio Case For Samsung Galaxy Tab 10.1
\$49.99 | www.belkin.com



Timbuk2 Kickstand Case For The iPad
\$49 | www.timbuk2.com

GRIP IT GOOD

► For owners of 7-inch tablets, Belkin's Transport Sleeve not only looks good with its stately black and light-gray two-toned exterior, it feels secure in your hands thanks to its easy-grip neoprene exterior. Better, the impact-resistance Transport offers the durability to prevent scratching on your device but without making itself a bulky addition to your carrying case or travel bag. Additionally, Belkin couples the Transport Sleeve with a limited lifetime warranty.



Belkin Transport Sleeve For 7-Inch Tablet
\$24.99 | www.belkin.com

EXPLOSIVELY PROTECTIVE

► San Francisco-based Timbuk2 bills its Kickstand as the company's most versatile sleeve for the iPad. Much of that versatility is due to the ability to fold the sleeve into a stand, ideal for watching movies or typing comfortably. In addition to carrying a lifetime warranty, the case features a "bomb-proof ballistic nylon" exterior and faux-fur soft interior lining and is available in various colors with gray trim.

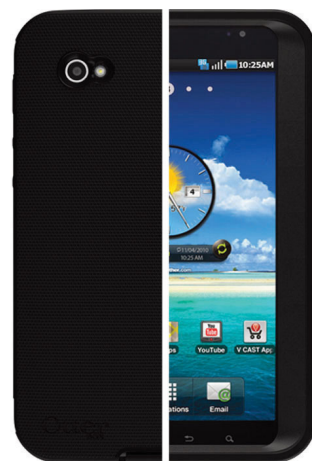
PERSONAL ELECTRONICS

TECH FOR HOME & LEISURE

SOPHISTICATED LEATHER

► Although designed for the iPad, the embossed leather-crafted Alpha is also well-suited for toting e-readers and other tablets within its zipped interior. Known for its luxury travel accessories, Tumi integrates a front-located open pocket into the Alpha that's ideal for stowing away a smartphone, notebook, calculator, and more. Additionally, the has Tumi's T-Pass designation, which means it's designed to get you through airport security checks without removing your tablet from the Alpha.

Tumi Alpha Leather Cover For iPad
\$125 | www.tumi.com



OtterBox Samsung Galaxy Tab
Defender Series Case
\$69.95 | www.otterbox.com

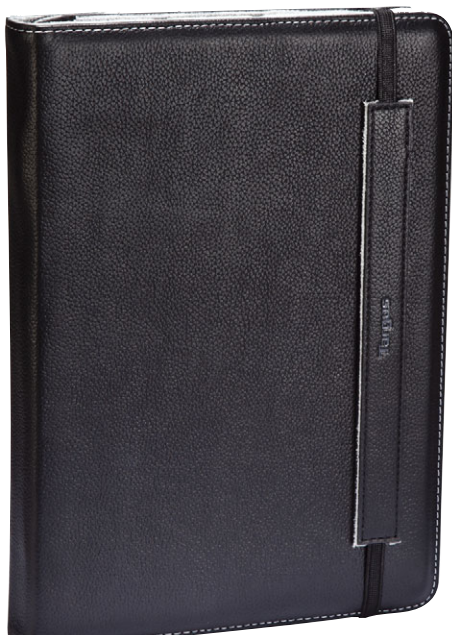
BUILT TO TAKE A BEATING

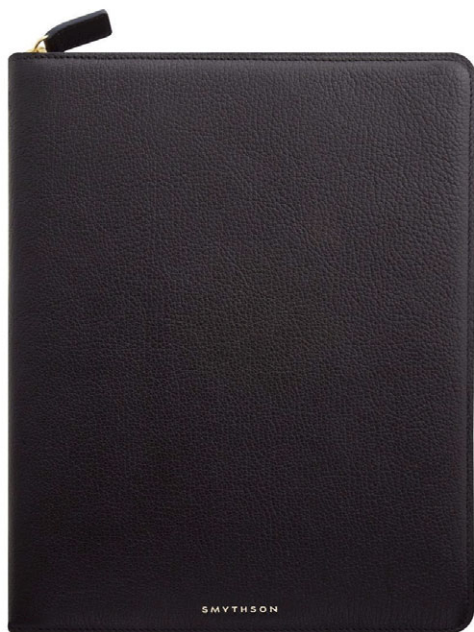
► Constructed for extreme durability, the Tab Defender Series Case dons three layers of protection, including a silicon skin, high-quality polycarbonate shell, and clear protective membrane covering the tablet's display, all without sacrificing functionality. Able to protect against bumps, shocks, drops, and dust (but not water), the case includes a clip-on touch-screen cover that integrates a fold-out stand. The Tab Defender is compatible with the Galaxy Tab 7.0 but not 7.0+ or 7.7.

STYLE & FUNCTIONALITY

► Fashioned from top-grain leather, the Truss Case & Stand provides Samsung Galaxy Tab 10 owners a black-tinted hard-shell exterior that speaks durable sophistication. The case unfolds in a book-like manner to unveil a light-gray interior that serves as a stand for your Galaxy Tab. In addition to a wrap-around band that securely holds the case closed, the Truss Case & Stand has a scratch-resistant lining.

Targus Truss Case &
Stand For Samsung
Galaxy Tab 10
\$49.99 | www.targus.com





Smythson iPad 2 Case In Black, Chameleon Collection
\$570 | www.smythson.com

FOR THOSE WHO MEAN BUSINESS

► Specially designed for the iPad 2, this Smythson case oozes class thanks to a black goatskin exterior featuring a blind-stamped Smythson logo and navy grosgrain zip closure. In addition to an iPad frame with cutout for the iPad's camera located in the interior, the case also supplies three pockets for business cards, as well as one larger sleeve. Additionally, Smythson will gold-stamp up to 15 letters of your choice on the exterior for an additional cost.



Sena Cases Magia Cover
\$45 | www.senacases.com

KINDLE FIRE FRIENDLY WITH "ZERO BULK"

► Handcrafted from European leather, this case for the Amazon Kindle Fire sports a simple design that manages to still convey classiness. Inside, the Magia provides a micro-fiber lining to protect the Fire. Function-wise, the cover uses a two-sided, non-residue-leaving adhesive to hold the Fire in place when propping it up via the cover's two folding positions for hands-free reading, gaming, or movie watching. Further, Magia offers all this versatility with "zero bulk."

.....

No matter your
tastes or needs,
though, there's
likely a case that's
a fit for you.

.....



EYE-CATCHING ELEGANCE

► Created in collaboration with designer Jonathon Saunders, this limited edition iPad case is crafted from two shades of color-blocked goatskin leather (red and camel; other colors available) and includes a black velvet inlay that separates them. A brushed-gold and black enamel zip closure, meanwhile, is also featured on the exterior. The interior includes a soft nubuck design that includes an iPad frame and pockets lined with William Morris-inspired flora and fauna printed silk.

Smythson Jonathan Saunders iPad Case, Red
\$570 | www.smythson.com



Protect Your Privacy Online

Minimize The Risks

If you use online services, social networking sites, or search engines, your privacy is at risk.

The more information you make available online, the easier it is to compromise your privacy, your identity, or even your computer. Today, there are very few consumer protections for online privacy, but there are steps you can take to help minimize the risk.

GENERAL ONLINE PRIVACY TIPS

Many online services and social networking sites request personal information. Knowing how your information is used and shared is important. However, privacy and security settings can be difficult to find and understand. To help protect your privacy, keep the following recommendations in mind when registering for online services:

- Enter the minimum amount of personal information necessary and do not provide information useful to identity thieves such as your birth date or Social Security number
- If email account information is required, don't use your work or home email account—create a separate email account to use solely for online activity
- Read the site's privacy policies—they can reveal a lot about how your information is used and how you can take additional steps to protect it
- Verify and change account and privacy settings—many sites default to less private options
- Use strong passwords and security questions that are not easy for others to guess
- Employ antivirus and spyware software on your computer and keep the software updated
- Be wary of installing software or toolbars, downloading items, and using add-on applications
- Look for and opt-out of receiving notices or special offers
- Decline options to import your email contacts into the service
- If you receive a personal email invitation to sign up for an online service, contact the sender to verify its authenticity
- Use common sense—if the site or service doesn't seem like it's on the up and up, don't register to use it

facebook®

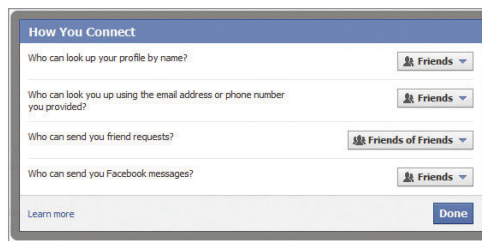
To access Facebook privacy options, click the drop-down arrow next to Home at the top-right of the page and then click Privacy Settings. Under the second heading, Control Your Default Privacy, you can establish the basic overall privacy setting for your Facebook activities. Here you can make your updates and photos open to the public, accessible only to friends, or accessible based on custom settings. The most private single choice is Friends, but the best option for privacy is to establish custom settings. This provides two advantages: you can see all of the types of information you are sharing, and you can set items to be visible by "Only Me."

To select this option, click Custom and select Only Me under Make This Visible To. In the Custom settings window, you can also identify specific people to whom you will make your account visible or hidden. After you review the settings, be sure to click Save Changes.

Under the third heading, How You Connect, click Edit Settings to define how others can connect with you. Here you can define who can search for you by name, email address, or phone number; send you friend requests; and send you messages. In most cases, the most private option is Friends. However, the friend requests option does not offer the Friends option, so Friends Of Friends is the most

private choice here. After you review the settings, click Done.

Next, you should carefully examine the privacy preferences under the Apps And Websites section on the Settings page. These settings affect the information that other websites and Facebook applications can access. And it controls the information that your friends' applications



Edit the How You Connect settings within Facebook to control who is able to find you on Facebook, how you can be found, who can send friend requests to you, and who can send you messages.

can access about you. To set these preferences, click Edit Settings. For Apps You Use, click Edit Settings and remove any applications you don't use. Or, you can click the "Turn off all apps" link to disable Facebook applications entirely. If you don't use Facebook apps, this is a good option because it also disables the remainder of the items here, with the exception of Public Search.

Finally, click Edit Settings next to Profile And Tagging to review those settings, and also look over the information in your profile. Note that you cannot prevent Facebook from displaying your profile photo, name, gender, and networks if you provide this information.

To access Facebook privacy options,
click the drop-down arrow next to Home at the
top-right of the page and then click Privacy Settings.

➤➤ Online Tracking Information & Tools

Data broker companies track Internet use through your Web browser, search engine, and online activity. Third-party cookies and code hidden on Web pages track your movements online, record the kinds of searches you perform, and capture personal information. Rather than your name, a code stored on your computer is associated with the information. The code and related data can be sold to companies that want to target advertisements and content specifically to your interests and profile.

For more information about how you can prevent online data collection and tracking, refer to the following resources:

AboutCookies.org

www.aboutcookies.org

Get detailed information about managing and tracking cookies in all types of Web browsers

KnowPrivacy

www.knowprivacy.org

Learn more about the current state of Web privacy, data collection, and information sharing from this research report by the UC Berkeley School of Information

Network Advertising Initiative

www.networkadvertising.org

and PrivacyChoice

www.privacychoice.org

Opt out of some behavioral targeting tracking and advertisements

Privacy Rights Clearinghouse

www.privacyrights.org

Get fact sheets in the Online Privacy & Technology section for detailed information about monitoring online activities and keeping information private

Start Page

www.startpage.com

Start your searches at StartPage to avoid search engine tracking



Google+ represents Google's own stab at connecting all of its users (and potentially all Web users) under one social umbrella. Whether or not you use Google+, there's a good chance you have noticed its features already. Google has integrated Google+ into all of its software and services, including search. The network's seemingly ubiquitous feature is the little +1 button that graces every hit on every Google search page as well as countless online articles and websites. It's akin to the Like and Tweet buttons for Facebook and Twitter, respectively, and often appears with them.

Google+ operates on the premise that in real life people share information with individuals and groups, and that on the Web users want more nuanced sharing options than the basic

When editing your Google+ profile, you can specify who has access to each piece of personal information about yourself.

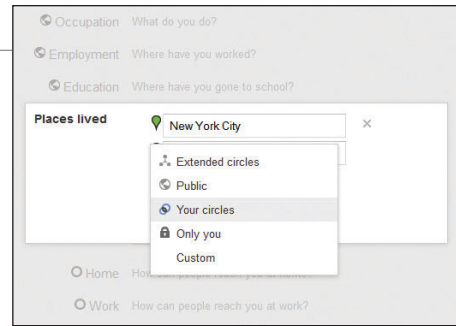
three—"private," "everyone in my network," and "the whole world"—when it comes to posting information about themselves. To that end, Google+ lets users create "circles" of other users to "follow." A circle can include an individual or any number of users.

After you have created circles, you can share posts, links, photos, and +1 clicks with those circles. How you choose to share posts and similar information amounts to one of the fundamental privacy controls within Google+: You can, on a post-by-post basis, share posts with any number of circles or no one at all.

Because Google+ is still in beta, with developers acting on a steady stream of suggestions from users, its privacy settings are subject to change. Apart from choosing how

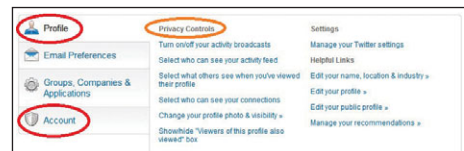
you share information when you post something, you will find other privacy options when you click the Settings link at the top of your Google+ page. Select Google+ at left to access options for who can interact with you and your posts, and select Profile And Privacy to access all other settings.

Unlike other social networking sites, Google lets you download all of your Google+ data so you can save it as a backup or keep it in your possession if you choose to stop using the service. To use this feature, click Data Liberation on the Settings page and follow the instructions provided.



Although it's a professional networking site without all of the social features of Facebook or Google+, LinkedIn uses your profile information for certain advertising and marketing opportunities. It also incorporates third-party applications and research surveys.

LinkedIn privacy controls are split between two areas on the Settings page: Profile and Account.



To modify privacy options, click your name at top right and select Settings. To control how much of your profile is available to search engines, click the Edit Your Public Profile link under Settings. Here you can determine whether to publish your profile and what information displays if you choose to do so. You can also preview your profile as it will appear in search engine results.

Most of the remaining privacy options are accessible by clicking select Profile or Account on the Settings page and looking under the Privacy Controls heading. In these areas you can control who can view your "broadcasts" (LinkedIn terminology for posts) and connections, whether you prefer to use a secure connection when using LinkedIn, and more.

InPrivate is turned on

When InPrivate Browsing is turned on, you will see this indicator



InPrivate Browsing helps prevent Internet Explorer from storing data about your browsing session. This includes cookies, temporary Internet files, history, and other data. Toolbars and extensions are disabled by default. See Help for more information.

To turn off InPrivate Browsing, close this browser window.

WAIT, THERE'S MORE

Signing up for online services and social networks can expose your personal information to others. But there are other online activities that third-party data brokers track through your Web browser and search engine use. Be sure to refer back to the "Online Tracking Information & Tools" sidebar for information and resources.

Internet Explorer 8 offers InPrivate browsing to prevent tracking cookies and temporary Internet files.

Wi-Fi hotspots are convenient because they provide high-speed Internet access

when you're away from your home or office. But the threats and security risks associated with these networks can sometimes outweigh the convenience. The truth is that most Wi-Fi hotspots, and especially publicly available ones, can be hotbeds for viruses and hackers.



Use Wi-Fi Hotspots Wisely

BUT IT MIGHT EASE YOUR MIND to know that there are ways to protect your computer from these threats and still be able to access some Wi-Fi hotspots with no fear. We'll show you what to look for in a wireless network, how to connect to it, and how to prevent threats from attacking your computer.

LOCATION, LOCATION, LOCATION

One of the easiest ways to make sure a Wi-Fi hotspot is safe is to recognize where it is located. If you're accessing important work documents, checking your business email, or performing any other work-related tasks, you shouldn't connect to "public" Wi-Fi hotspots that don't require a password or credentials for access. These types of networks are often seen at coffee shops, restaurants, and other similar

locations, allowing anyone to connect to them.

The biggest threats related to public Wi-Fi hotspots are wireless packet sniffing or capturing and MitM (Man in the Middle) networks. With wireless packet sniffing, someone on a network is able to view the information being sent to and from your computer and is able to capture it for use later on. MitM threats are similar in that they also gather data from your computer, but they do so in a much more complex way.

"With MitM attacks, a rogue access point pretends to be the network you actually want to connect to," says James McMurtry, president and CEO of Milton Security Group. "All data you send through that rogue access point can be actively manipulated. Often this kind of threat will direct you to sites that look just like your bank or email, so that they can easily

intercept your passwords or credit card information."

To prevent wireless packet sniffing, data encryption is a must and can be included in a full security software suite or as an extension of your company's email security solution. And to avoid connecting to a MitM network, you should always make sure that a network is password-protected and not available to the general public.

INSTALL ANTIVIRUS SOFTWARE & REGULARLY UPDATE YOUR COMPUTER

Even with email encryption in place and a solid understanding of how to avoid potentially dangerous hotspots, it may not be enough. To fully protect your computer, you should invest in antivirus software that blocks malware-hosting websites and other threats; provides

some form of data encryption when information is transmitted to and from your computer; and has regular updates available that help protect your computer from the newest and most sophisticated viruses.

For example, Trend Micro's *Worry-Free Business Security Standard* software provides protection against viruses, rogue applications, malicious downloads and email links, potentially hazardous URLs, and much more. And the Advanced version of the software has specific features designed for Mac computers.

McMurry also recommends keeping your operating system up-to-date with service packs and other improvements. Both Apple and Microsoft provide regular updates that patch potential vulnerabilities and add new features that may put an extra layer of security between your computer and outside threats.

CONNECTING TO A WI-FI HOTSPOT

After you've located a safe wireless network and have sufficient security measures in place, it's time to actually connect to the network. With Windows 7 computers, you can go to the Control Panel, click Network and Internet, Network and Sharing Center, and then Connect To A Network. You can also look for the network menu icon on your taskbar and click it. From there, you will see a list of available wireless networks. Find the one you want to connect to, click it, and then click Connect. You may be asked for a password. If so, enter it and then you should have full access to the network.

You may encounter a situation where a wireless network is hidden and unsearchable. If this happens, but you know the name of the network and its log-in information, go to the Network and Sharing Center menu, click Set Up A New Connection Or Network,

and then click Manually Connect To A Wireless Network. Here you can enter the network name, security type, encryption type, and security key to connect to the hidden network.

For Mac users, look for the wireless network symbol on the taskbar in the upper right hand corner and click on it. A list of networks will show and you can click on them to connect. As with Windows 7, you may have to enter a username and/or password to connect to it. If the network you want to access isn't on the list, click Join Other Network and search for it. From there, you should be able to connect to the right network and start surfing the Web.

CONSIDER ALTERNATIVE NETWORK TYPES & COMMON SENSE

If you are ever in doubt that a Wi-Fi hotspot isn't safe and you don't need access to a super high-speed Internet connection, McMurry recommends using a 3G/4G

connection or tethering your computer to your smartphone. There are similar risks associated with mobile networks, so you'll still have to invest in data encryption for email and other applications.

And if you do need a high-speed wireless network connection, you can have your IT department set up a VPN tunnel on the company end, so traffic is put "onto the VPN tunnel and not on the public Wi-Fi" network, according to McMurry.

Employees will then have safe access to internal company assets and be as productive on the road as they are in the office.

In most situations, using common sense is the best way to avoid connecting to a bad Wi-Fi hotspot and opening your computer up to outside threats. Avoid public hotspots whenever possible, only connect to networks that you know and trust, and when in doubt, don't connect. Always remember that a small decrease in connection speed is a small price to pay for a safe computer. ●

In most situations, using common sense is the best way to avoid connecting to a bad Wi-Fi hotspot and opening your computer up to outside threats.



Setting up your Windows 7 firewall will help lower the risk of viruses or other threats accessing sensitive data stored on your computer.

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The big moment is at hand—that make-or-break presentation.

You know your material by heart, but your projector/notebook combo is acting up. The show must go on, and with the help of these handy tips, it will.

.....



Troubleshoot Projector Problems

AN OUNCE OF PREVENTION

YOU CAN HEAD SOME PROBLEMS OFF at the pass by always carrying a spare parts bag. You can never tell when a favorite cable, an adapter, or the projector lamp is going to fail.

GET CONNECTED

Use as few adapters and as short a cable as possible to make connections. The more cables and adapters you use, the greater the likelihood of problems.

Try to use a digital connection, usually DVI, HDMI, DisplayPort, or Mini DisplayPort. By avoiding VGA, RGB, S-Video, and other analog connection options, your projector and notebook are more likely to work in automatic mode, where they detect the connection type and self-adjust for the best images.

If you are using the projector's remote to control a presentation, be

sure to connect its mouse cable (usually USB) to your notebook.

After making all of the connections, turn the projector on before booting your notebook. This gives your notebook the best chance of detecting that a projector is attached and what resolution the projector wants to use.

NO SOUND

Test the audio by generating a system sound on your notebook. An adjustment to the volume control should produce a reassuring ping over the speakers. If you don't hear anything, make sure your notebook isn't set to mute audio and that you're using the appropriate audio out jack.

If that doesn't do the trick, check that the projector's audio volume is set correctly and not muted. If you're using an audio system provided by the venue, ask one of its support

staff to ensure the audio system is set up correctly.

NO IMAGE

That heart-stopping moment when you turn your projector/notebook on and don't see an image usually feels worse than it is. The possibilities could include a burnt-out bulb, bad cables/adapters, or a notebook or projector that's set to the wrong inputs or outputs.

Start by checking the projector lamp. If it isn't lit, try accessing the projector's built-in menu system or test image. If the bulb is OK, it should turn on when you use the projector's built-in functions. If the bulb doesn't turn on, it's time to dig out the replacement bulb.

Cables and adapters can be loose or break down after long use. Make sure all of the connections are tight. If necessary, try a different cable or adapter.

Many newer notebooks will detect when a projector is plugged into one of its video outputs and automatically turn the port on. However, not all notebooks do this, and even those that do might still not produce an image if the notebook isn't set to have its desktop duplicated or extended to the secondary monitor (the projector).

Most notebooks have a function key combination you can use to toggle the projector port on or off and set how the display will be used; check your notebook's manual for specifics. We prefer to use the control panels in Windows to perform this function, that way, we know the exact settings.

Windows XP. Right-click a blank area on the Desktop and select Properties from the pop-up menu. In the Display Properties window, click the Settings tab. Use the drop-down menu to select the second display. Select the Extend My Windows Desktop Onto This Monitor checkbox and click the Apply button. Your Desktop background should appear on the projector.

Windows Vista. Right-click a blank area on the Desktop and select Personalization from the pop-up menu. In the Personalization dialog box, select Display Settings. Use the drop-down menu to select the second display. Select the Extend The Desktop Onto This Monitor checkbox and click Apply.

Windows 7. Right-click a blank area on the Desktop and select Screen Resolution. Use the Display drop-down menu to select the second display, and then select Extend These Displays from the Multiple Displays drop-down menu.

Win7 also has a pop-up display for selecting the content that will be sent to a projector. Press the Windows key-P to bring up the selections:

Disconnect Projector (turns the projector display off), Duplicate (mirrors your computer's Desktop on the projector), Extend (uses the projector as an extension of the Desktop), and Projector Only (uses the projector as the main display).

FINICKY FOCUS

Room conditions can deceive auto focus projectors. If you're near the projector, make sure you are familiar with its manual focusing system. If you're using a remote, be sure you know how to adjust the

focus; never rely on just the auto focus function.

Also, use high-quality images whenever you can. Heavily compressed images tend to look soft or even a bit blurry when projected to a large size. Likewise, avoid images with resolutions meant for Web pages; high-resolution images are

ideal when sharp focus is a goal.

DISPLAY CUTS OUT

If the projector's display shuts off during your presentation, you may think your notebook's screen saver is the culprit. Your notebook's

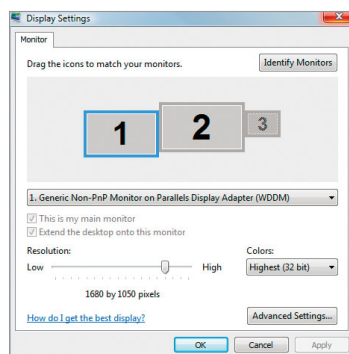
power management may also be to blame, especially if you are running your notebook off its battery. We suggest using the AC adapter when possible. Check your cables, too. Loose connections can cause the display to cut in and out.

USING A NETWORK PROJECTOR

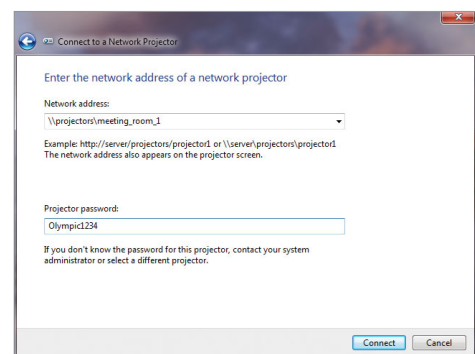
Many businesses are using network projectors, which connect to the company's network as a shared resource. Vista and Win7 make connecting to a network projector a simple process. When you connect to the company's network, click the Start button, select All Programs, click Accessories, and select Connect To A Network Projector. If the network connection wizard reports that your notebook's firewall is blocking the connection, click the button to allow the connection. If you know the name of the network projector, select Search For A Projector. If you know the address of the projector, select Enter The Projector Address.

Once you make the connection, the Network Presentation window will open and then minimize to the taskbar. Next, you will open the Network Presentation window and select Pause to suspend the presentation or Resume to start or resume the presentation. The network projector is treated as another monitor attached to your notebook. ●

Likewise, avoid images with resolutions meant for Web pages; high-resolution images are ideal when sharp focus is a goal.



Extending the Desktop onto the monitor/projector is a good way to ensure the projector is working correctly.



Before you can connect to a network projector, you'll usually need to know the projector's network name or address and password.

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Packing a punch during live presentations

is a great way
to advance your
career or grow your
small business.

However, if you're like most mobile professionals, you probably don't have a whole lot of time to explore Microsoft Office PowerPoint 2007's features.

.....



PowerPoint In A Pinch

NEVER FEAR. We explore a few tips and tricks that will help you get up to speed and fine-tune your PowerPoint skills.

THE RIBBON

As in other Office 2007 applications, in PowerPoint 2007, the Ribbon replaces the menu bar used in previous versions. The Ribbon's purpose is to keep similar commands grouped under each tabbed heading. Every time you click a tab, such as Insert or Design, the commands and buttons logically related to that topic appear. Even though this is an efficient setup, it may take some getting used to if you are accustomed to using PowerPoint 2003. It may help you to look at the features and commands under each categorized tab like the submenus in the older versions of PowerPoint, only somewhat more intuitive.

If the interface is too cluttered for your taste, or if you simply want more room to work on-screen, you can minimize the Ribbon when not in use. To do this, right-click any Ribbon tab and choose Minimize The Ribbon in the context menu. To restore tab options, right-click any Ribbon tab again and deselect Minimize The Ribbon. Alternately, you can double-click any active tab to minimize the Ribbon. When you want temporary access to Ribbon options, click the tab that has the commands and features you need. To restore the Ribbon again, you can double-click any tab. And if you prefer to use your keyboard to toggle between the Ribbon's minimized and restored states, press CTRL-F1. Fast.

SET SLIDE TRANSITIONS

You can preview slide transitions even while you're working with a slide

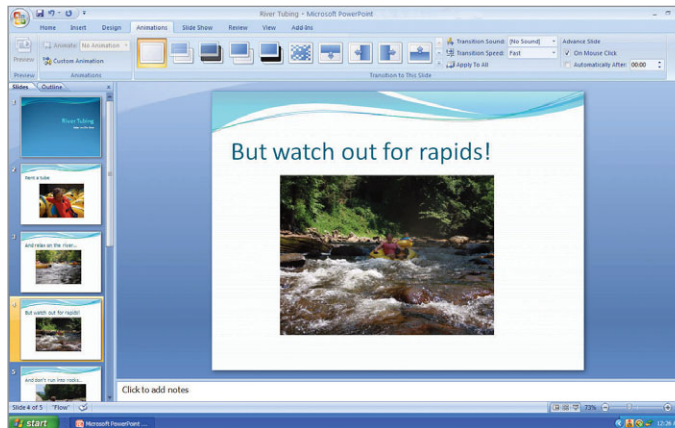
in Normal view. This lets you see a transition style before deciding whether to apply it to your slide.

To do this, you want to display the slide in Normal view and click the Animations tab. Then rest your mouse pointer over the animation styles shown in the Transition To This Slide section. When you find a transition you like, click it, and then PowerPoint applies the transition to your slide.

If you don't care for the initial styles on the Ribbon, you can use the up or down scroll arrows at the right of the last transition effect to view additional options. Each time you click the scroll arrow, for example, PowerPoint displays another row of slide animations.

In addition to setting an animation for the slide, you can choose a sound to play during the slide transition. With the Animations tab still selected, click the Transition Sound drop-down menu

Click the Animations tab to view slide transitions and special effects.



►► QUICK ACCESS TOOLBAR

► PowerPoint 2007 has a Quick Access Toolbar, which includes tools that are independent from the Ribbon. Move or customize this toolbar to fit your work style.

► The toolbar is located in the upper-left corner of PowerPoint. To move it closer to your work area, click the down arrow at the right of the toolbar to access the Customize Quick Access Toolbar menu, and then choose Show Below The Ribbon. If you decide later that the new location encroaches too much into your work area, open the menu again and choose Show Above The Ribbon.

► You can add commands to the Quick Access Toolbar by opening the drop-down menu and choosing a command. Because many of the commands on this menu are toggles, you can remove a command from the toolbar simply by deselecting any option you don't want.

► If the command you want doesn't appear on the list, choose the More Commands option to open the PowerPoint Options dialog box. Select the command you want from the list at the left, click the Add button, and click OK.

to display a list of animation sounds. Next, rest your mouse pointer on any of the sound effects on the list, and PowerPoint will play the sound.

You can also set the speed at which the animation displays by clicking the Transition Speed drop-down menu and then choosing Slow, Medium, or Fast.

CHANGE YOUR VIEW

Just as in previous PowerPoint versions, PowerPoint 2007 includes a variety of views, each designed to help you work with your presentation in a specific manner. To quickly change the view, you can click the Normal, Slide Sorter, or Slide Show buttons located in the lower-right corner of the work area.

PowerPoint also includes other built-in methods for changing slide view. You can double-click a slide in Slide Sorter view to quickly display it in Normal view, and you can press F5 to launch a slideshow. To access more view options—maybe you want to use the Notes Page view, turn on the ruler, or see your slide in gray-scale—just click the View tab on the Ribbon.

By default, PowerPoint presentations open in Normal view. However,

you can choose a different view, such as the Slide Sorter or Slide Show, as the default view. Click the Microsoft Office button and choose PowerPoint Options. Click Advanced in the PowerPoint Options dialog box. Next, click the Open All Documents Using This View button in the Display section and then choose a view from the Open All menu under Display. Click OK to close the dialog box.

USE ZOOM EFFECTIVELY

You can magnify or shrink the display of your slide in Normal view by clicking the Zoom Out or Zoom In buttons (indicated by the minus and plus signs, respectively, at the lower-right corner of the work area). Each click of your mouse decreases or increases the slide's display by 10%, depending on the zoom button you select, of course. For more control over the zoom level, you can drag the Zoom slider to achieve the desired view. To redisplay the entire slide, click the Fit Slide To Current Window button next to the Zoom In button.

DISPLAY OPTIONS

If you're itching to jazz up your PowerPoint's interface, you can control and customize its look on your display. For example, to change the blue color scheme, simply click the Microsoft Office button, click PowerPoint Options, and select Popular in the PowerPoint Options dialog box. Next, click the Color Scheme drop-down menu and choose Silver or Black for the interface. Click OK to accept the change.

For more display settings, click Advanced in the PowerPoint Options dialog box and select from the options in the Display area. You can choose to show all Windows in the Taskbar, display shortcut keys in the ScreenTips, or turn the vertical ruler on or off. Click OK when you finish. ●

If you're itching to jazz up your PowerPoint's interface, you can control and customize its look on your display.

What should
you do when your
smartphone decides
to play dead?

*Resist the urge to throw it against
the nearest wall and try one of
these techniques instead.*



Revive A Dead Smartphone

SOFT RESET

ALL PHONES HAVE a soft reset function, which is similar to restarting your computer. Beware that a soft reset will cause you to lose data that isn't saved, but you will retain information previously stored on your smartphone.

► **Android.** Most Android models use a simple power cycle to perform a soft reset. Just turn the phone off and then back on again.

► **BlackBerry (QWERTY).** Press and hold the ALT-CAP-DEL keys. The display goes black and your phone resets.

► **BlackBerry (SureType).** Press the ALT-CAP and Right Shift-DEL keys. When the screen goes blank, release the keys.

► **BlackBerry (touchscreen).** Turn the BlackBerry off and remove the battery

for at least 30 seconds. Reinstall the battery and turn the device back on.

► **iPhone 4 and earlier.** Simultaneously press and hold the Sleep/Wake button on the top of the iPhone and the Home button. Hold both buttons for approximately 10 seconds, until the screen goes blank. You'll see the Apple logo as the iPhone reboots.

► **iPhone 4S.** Simultaneously press and hold the On/Off button on the top of the iPhone and the Home button. Hold both buttons for approximately 10 seconds, until the screen goes blank. You'll see the Apple logo as the iPhone reboots.

► **Microsoft Windows Phone 7 (all models).** Power the phone off and then back on. If the power cycle doesn't correct the problem, try removing the battery and replace it after 30 seconds.

► **Nokia (all models).** Power the phone off and remove the battery for 30 seconds. Reinstall the battery and power the phone on. Alternately, you can enter the code *#7380# and select Yes.

► **Palm Pre.** If the phone's menus are active, select Device Info, Reset Options, then select Soft Reset. If it is locked or frozen, hold the power button and cycle the ringer button on and off three times. If that doesn't work, press and hold the Orange, Sym, and R keys until the device reboots. Turn the phone off, remove the battery for 10 seconds, reinstall the battery, and power the phone up.

► **T-Mobile myTouch 4G Slide.** Unlock the display. Press and hold the Power/Lock button and then tap Restart. When asked to confirm, tap Restart again. If the phone doesn't restart, remove the batteries for 30 seconds.

➤ **All other smartphones.** You can generally perform a soft reset by powering the phone off, removing the battery for 30 seconds, and powering the phone on.

HARD RESET

A hard reset is a last-ditch option that returns your phone to its factory settings, which means you will lose all data and installed applications. Before you perform a hard reset, remove the memory card from your phone; that way you can recover data from the card later.

➤ **Android (all models with functioning menu systems).** One of the following menu-based systems for performing a hard reset should work, depending on the phone and version of Android. Open the application menu. Tap Settings, SD and Card Storage, Factory Data Reset, and follow the on-screen instructions.

- From the Home screen, you'll want to tap Menu, Settings, Privacy, and Factory Data Reset, and then follow the on-screen instructions.
- From the Home screen, you'll want to tap Menu, Settings, Security, and Factory Data Reset, and then follow the on-screen instructions.

When the menu system isn't functional, follow these phone-specific options to perform a hard reset.

➤ **BlackBerry (all models).** Remove the battery for 30 seconds. Reinstall the battery and turn the phone back on.

➤ **BlackBerry Style, Bold, Storm, Curve, Tour, Torch.** Click the Options icon on the Home screen. Select Security and then Security Wipe. Select all three of the available checkboxes to perform a complete wipe and reset the device to factory condition. Type the word BlackBerry and click Wipe.

➤ **Dell Venue.** With the device turned off, press and hold the Volume Up and Volume Down buttons. Without releasing the buttons, press and hold the

Power button. When the device configuration screen appears, release all buttons. Use the Volume Up or Down button to move to Factory Reset. Press the Camera button to select the Factory Reset option and start the reset process.

➤ **Google Nexus One, Nexus S.** Turn the phone off. Press and hold Volume Down while you press and release the Power button. Use the Volume Down button to select Clear Storage from the list of options. Press the Power button, and confirm your selection by pressing the Volume Up button.

➤ **HTC Arrive, HD7, Surround.** Press Start and tap the right-facing arrow. Tap Settings, About, and then tap Reset Your Phone. Tap Yes, and then tap Yes again. If the screen is frozen, turn the device off. Press and hold the Volume Up-Down buttons and briefly press the Power key. When the screen displays instructions for resetting the device, release the Volume Up-Down buttons.

➤ **iPhone (all models).** From the Home screen, tap Settings, General, Reset, and Reset All Settings. This resets all preferences but retains applications and data. If that doesn't work, from the Home screen, tap Settings, General, Reset, Erase All Content, and Settings. This will delete all data and applications and return the iPhone to factory conditions.

➤ **Microsoft Windows Phone 7 (all models).** Press Start and tap the right-facing arrow. Tap Settings, About, and Reset Your Phone. Tap Yes, and then tap Yes again.

➤ **Motorola Droid.** Turn the phone off. Press and hold the Power-X keys to force the phone into recovery mode. Next, press and hold the Volume Up-Camera key, select Wipe Data/Factory Reset, and then select Reboot Phone.

➤ **Motorola Droid Pro, Droid 2 Global, Droid 3, Droid Bionic, Droid Razr.** On the Home Screen, open the App

menu and select Settings, Privacy, and Factory Data Reset. When prompted, tap Reset Phone to erase all data and return phone to factory conditions.

➤ **Motorola Backflip.** Power the phone off. Press and hold the Power and Camera buttons. When the phone turns on, release the Power button but continue to hold the camera button until prompted to release it. Next, press the Volume Down button. After about 15 seconds, a yellow triangle with an exclamation point will appear. With your phone closed, tap the bottom-right corner of the display and select Wipe Data/Factory Reset. Press OK and follow the on-screen instructions.

➤ **Nokia (all models).** With your phone powered on or in standby mode, type *#7370# and select Yes, when prompted. You may need your Lock Code for confirmation. The default lock code is 12345. If your phone doesn't turn on, try pressing the On/Off button, *, and 3 simultaneously.

➤ **Samsung Galaxy Nexus (Android 4.0).** Turn off the phone. Press the Volume Up and Power buttons. When the Recovery Menu appears, use the Volume Down button to select Recovery, and then press Power. The phone will reboot; this process can take a bit of time. If the phone fails to reboot, remove the battery, wait about 30 seconds, and then reinsert the battery.

➤ **T-Mobile G2x.** If possible, back up your data to Google's servers by selecting Privacy from the Settings screen. Select the Back Up My Data option. When the backup is complete, power off the phone. Press and hold the Power/Lock-Volume Down keys for at least 15 seconds. The phone should turn back on and perform a factory reset. If the screen is frozen, or the phone doesn't turn back on, remove the battery, wait 30 seconds, then reinstall the battery and try again. ●



BUSINESS TRAVEL 911
ON-THE-GO TECH SUPPORT

The Traveler's 911 Directory

AIRLINES

►Air Canada

www.aircanada.com

mobile.aircanada.ca

Information and reservations

(888) 247-2262

Baggage information

(888) 689-2247

►American Airlines

www.aa.com

mobile.aa.com

Reservations (800) 433-7300

TDD (800) 543-1586

Flight information

(800) 223-5436

Baggage delayed less

than five days (800) 535-5225

Ticket refund requests

(918) 254-3777

►British Airways

www.britishairways.com

ba2go.com (mobile)

Information and reservations

(800) 247-9297

►Delta Air Lines

www.delta.com

mobile.delta.com

Reservations

(800) 221-1212

Flight information

(800) 325-1999

Baggage information

(800) 325-8224

SkyMiles members

(800) 323-2323

►Frontier Airlines

www.frontierairlines.com

Reservations

(800) 432-1359

Customer relations

(800) 265-5505

►JetBlue Airways

www.jetblue.com

mobile.jetblue.com

(800) 538-2583

►Lufthansa

www.lufthansa.com

mobile.lufthansa.com

Information and reservations

(800) 399-5838

►Southwest Airlines

www.southwest.com

mobile.southwest.com

(800) 435-9792

TDD (800) 533-1305

►Spirit Airlines

www.spiritair.com

(800) 772-7117

►United Airlines

www.united.com

www.ua2go.com (mobile)

Reservations

(800) 864-8331

International reservations

(800) 538-2929

TDD (800) 323-0170

►US Airways

www.usairways.com

Reservations to the

U.S. and Canada

(800) 428-4322

Reservations to

international destinations

(800) 622-1015

TDD (800) 245-2966

Customer service

(800) 943-5436

VEHICLE RENTALS

►Advantage Rent A Car

www.advantage.com

Reservations

(866) 661-2722 or

(210) 344-4712 outside

the U.S.

Customer service

(800) 777-5524

►Alamo Rent A Car

www.alamo.com

(800) 462-5266

TDD (800) 522-9292

►Avis

www.avis.com

mobile.avis.com

Reservations (800) 331-1212

BUSINESS TRAVEL 911

ON-THE-GO TECH SUPPORT



TDD (800) 331-2323

Customer service

(800) 352-7900

►Budget Rent A Car System

www.budget.com

mobile.budget.com

Reservations in the U.S.

(800) 527-0700

Reservations outside the U.S.

(800) 472-3325

TDD (800) 826-5510

Roadside assistance

(800) 354-2847

Customer service

(800) 214-6094

►Dollar Rent A Car

www.dollar.com

Reservations (800) 800-3665

Reservations outside the U.S.

(800) 800-6000

TDD (800) 232-3301

24-hour roadside assistance

(800) 235-9393

►Enterprise Rent-A-Car

www.enterprise.com

Reservations (800) 261-7331

TDD (866) 534-9270

►Hertz

www.hertz.com

hertz.mobi

Reservations (800) 654-3131

Reservations outside the U.S.

(800) 654-3001

TDD (800) 654-2280

Extend rental (800) 654-4174

Billing information

(800) 654-4173

Customer relations

(888) 777-6095

►National Car Rental

www.nationalcar.com

(800) 227-7368

TDD (800) 328-6323

►Payless Car Rental

www.paylesscarrental.com

(800) 729-5377

►Thrifty Car Rental

www.thrifty.com

Reservations (800) 847-4389

Emergency (877) 283-0898

TRAVEL SERVICES

►AAA

www.aaa.com

aaa.mobi

Roadside assistance

(800) 222-4357

►Expedia

www.expedia.com

m.expedia.com

(800) 397-3342

►Hotwire

www.hotwire.com

m.hotwire.com

(866) 468-9473

►Orbitz

www.orbitz.com

m.orbitz.com

(888) 656-4546

►Priceline

www.priceline.com

travala.priceline.com/smartphone

(800) 774-2354

►Travelocity

www.travelocity.com

mobile.travelocity.com

(888) 872-8356

HOTELS

►Candlewood Suites

www.candlewoodsuites.com

mobile.candlewoodsuites.com

(888) 226-3539

►Chase Suite Hotels

www.woodfinsuitehotels.com

(800) 966-3346

►Choice Hotels International

(Cambria Suites, Comfort Inn, Comfort Suites, Quality Inn, Sleep Inn, Clarion, MainStay Suites, Suburban Extended Stay Hotel, Econo Lodge, and Rodeway Inn)

www.choicehotels.com

(877) 424-6423

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courtyard.mobi

(888) 236-2427

►Crowne Plaza

Hotels & Resorts

www.crowneplaza.com

mobile.crowneplaza.com

(877) 227-6963

►DoubleTree Hotels

www.doubletree.com

www.doubletree.mobi

(800) 222-8733

►Embassy Suites Hotels

www.embassysuites.com

embassysuites.mobi

(800) 362-2779

►Four Seasons Hotels

& Resorts

www.fourseasons.com

mobile.fourseasons.com

(800) 819-5053

►Hampton Inn

Hotels & Suites

www.hamptoninn.com

www.hamptoninn.mobi

(800) 426-7866

►Hawthorn Suites

By Wyndham

www.hawthorn.com

(800) 337-0202

►Hilton Hotels

www.hilton.com

www.hilton.mobi

(800) 445-8667

►Holiday Inn

www.holidayinn.com

mobile.holidayinn.com

(888) 465-4329

►Holiday Inn Express

www.hiexpress.com

mobile.hiexpress.com

(888) 465-4329

►Homewood Suites

www.homewoodsuites.com

www.homewoodsuites.mobi

(800) 225-5466

►Hyatt Hotels & Resorts

www.hyatt.com

(888) 591-1234

TDD (800) 228-9548

Hyatt Place (800) 993-4751

Hyatt Summerfield Suites

(800) 993-4983

►Marriott

www.marriott.com

marriott.mobi

(888) 236-2427

►Park Plaza

www.parkplaza.com

(800) 777-1700

►Radisson Hotels

& Resorts

www.radisson.com

(888) 201-1718

►Ramada Worldwide

www.ramada.com

From U.S. & Canada

(800) 854-9517

Customer Service

(800) 828-6644

►Renaissance Hotels

& Resorts

www.renaissancehotel.com

(888) 236-2427

►Residence Inn

www.residenceinn.com

residenceinn.mobi

(888) 236-2427

►Ritz-Carlton Hotels

& Resorts

www.ritzcarlton.com

(800) 542-8680

►Sheraton Hotels

& Resorts

www.sheraton.com

(800) 325-3535

►Staybridge Suites

www.staybridge.com

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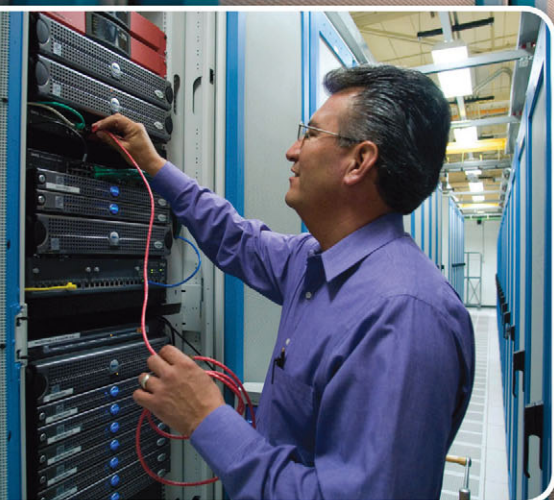
► There are many smartphone docks on the market that play music through your vehicle's speakers, but one model also lets you access apps, listen to music, and much more. The Pioneer AppRadio 2 (\$599; www.pioneerelectronics.com) is an in-dash car receiver with a 7-inch multitouch display and Bluetooth capabilities for making hands-free phone calls. The device makes it safer and easier to navigate routes to your destinations and access apps while in your vehicle.

All you have to do is download the free AppRadio app to your smartphone, dock the smartphone, and you're ready to go. The AppRadio 2 also sports an AM/FM radio tuner, multiple audio presets, and customizable control settings for your steering wheel. Pioneer's AppRadio 2 is scheduled for a spring release and will be available for the iPhone4/4S, iPod touch (4th generation), and select Android devices.

HTC'S NEW PHONE AMPLIFIES SIGHTS & SOUNDS

► HTC's One X Android 4.0 smartphone (www.htc.com) is a multimedia powerhouse designed for people with on-the-go entertainment needs. It has Beats Audio built-in for great sound quality and features an 8MP camera with auto-focus, LED flash, and HTC's ImageSense system. The camera has a continuous capture setting, so you can hold down the shutter button and take multiple photos in a row. And you can even record 1080p HD videos and take photos at the same time.

With the addition of HTC Sense 4 to the One X, there are also a variety of in-car features that business travelers will find helpful. HTC Car makes it easy to tune into Internet radio stations or use Google Maps and Navigation to make it to your hotel or next business meeting. And, using the HTC Car Mic or HTC StereoClip accessories, you can answer calls hands-free. All of these features together make the HTC One X a great companion for travelers and entertainment lovers alike.



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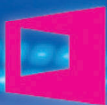


(Front View)

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(Rear View)



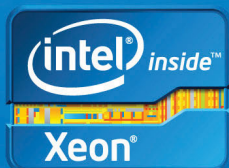
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